MAJOR ENERGY USERS INC

THE VOICE OF ENERGY CONSUMERS

Australian Energy Markets Commission

Review of the Electricity Transmission

Revenue and Pricing Rules

Comments on the Revenue Requirements

Draft Determination

by

The Major Energy Users Inc

And

Major Employers Group Tasmania

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Assistance in preparing this submission by the Major Energy Users Inc was provided by Headberry Partners Pty Ltd and Bob Lim & Co Pty Ltd.

The content and conclusions reached in this submission are entirely the work of the Major Energy Users Inc., MEG Tasmania and its consultants.

"Nor is the people's judgement always true:
The most may err as grossly as the few."

John Dryden, 1681 (Absolom and Architophel)

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Executive Summary

Despite clear evidence that Utilities as a class (including the electricity transmission businesses) are in the top quartile for profitability (as measured by the dividend yield) and have the lowest risk profile than every other sector of the market (as measured by equity beta), the AEMC has determined that this is insufficient, and that further increases in profitability for TNSPs are needed and that the risks they face need to be further reduced.

MEU suggested that a reason for the outperformance was due to high WACCs awarded by regulators for such low risk businesses. Unfortunately the AEMC has elected to ignore this fact, and has carried out no independent assessments to confirm that the MEU contention is soundly based. The MEU would have welcomed an open debate and indeed expected one for a review of such importance.

Overall, the AEMC is proposing a package which demonstrably requires consumers to pay more for what they use, predicated on an unproven assumption that more investment is needed in the transmission system than is currently provided.

Analysis of the Draft determination and its accompanying second draft Rules shows clearly that the AEMC has taken a view that the electricity transmission businesses (TNSPs) need to be given more freedom, less risk and a greater return on their funds then was the case under the old Rules.

The AEMC has taken a conceptual view (no doubt backed up by the unfounded protestations of the TNSPs that they need such encouragement) that by giving away more consumers' money to the TNSPs, there will be greater investment in the transmission networks. Unfortunately the AEMC has failed to carryout any independent review of its own, to demonstrate that such additional encouragement has any foundation at all.

There are a number of clearly expounded views by AEMC where it has increased freedoms, increased returns and decreased risks.

Less risk

- The TNSPs face less risk as a result of the approach to automatically roll into the RAB capex actually incurred without any assessment that the amount to be included is demonstrably prudent and efficient

- The TNSPs face less risk as a result of the decision not to carryout assessments from ex post optimizations of the networks
- The TNSPs face less risk as a result of the reduction of the powers of the AER to assess on a holistic basis the entire revenue and performance package proposed by a TNSP.
- The TNSPs face less risk through the automatic pass through of costs from exogenous events
- The TNSP face less risk in achieving service performance outcomes as they can include "contingent projects" in the capex forecast and be permitted to vary the expenditure in the future, both with regard to timing and value

Increased returns

- The return on funds has been increased by reducing the debt credit rating to that actually achieved by the lowest rated and highest geared TNSP, despite its gearing being well in excess of that used for the notional TNSP
- The return on funds has been increased by using an equity beta of 1.0 despite the fact that most state based regulators have reduced the equity beta on electricity distribution businesses (which have a higher risk) and not recognizing that the AEMC has further reduced the risks faced by TNSPs

Greater freedoms and incentives

- TNSPs are to be given the freedom to set their own depreciation schedules, despite the fact the current regulatory approach overly compensates them already
- Under-runs in capex and opex will automatically result in a bonus to the TNSP, without any assessment whether these and other incentives included in the package will provide a driver for the TNSP to actively game the Rules.

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1. Introduction

Article 7 of the National Electricity Law

National electricity market objective

> "The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services **for the long term interests of consumers of electricity** with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system."

Concerns with comments of the AEMC in the draft determination

- The AEMC has made a number of changes to the Rules. In its explanation of why it has decided on one feature or another, it makes continual reference to the needs of the TNSP but fails to make any assessment of the impacts on other parties, particularly the interests of consumers which the AEMC is to consider under the NEL. It has been assumed that all of the changes are in the interests of consumers because there will be an increased investment profile for TNSPs, but this issue is never proven or even examined

- Regularly throughout the draft decision the AEMC notes that acceptance of its view is often supported by a statement that "a majority" or "most" of the submissions agree with the point in question. The AEMC received 29 submissions, nearly half of which were from regulated asset owners, their representative bodies and governments owning regulated assets. There were five submissions only from consumer representatives or governments not owning transmission and/or distribution assets. This means inevitably that there would always be a bias in the number of submissions in favour of increasing the revenue of TNSPs and reducing the risks they face.

This approach by the AEMC has little or no validity and is superficial to say the least. Indeed, its failure to assess carefully and to differentiate the views of stakeholders does not reflect well on the AEMC's review process. This is very disconcerting.

The MEU and MEG (MEU)

Subsequent to the submission made by MEU and MEG (MEU) to the AEMC proposed draft Rule and the presentations made at the AEMC Forum, the MEU welcome the opportunity to expand further on its earlier submissions, but with particular reference to the stated approach of the AEMC that it desires that the Rules promote investment by TNSPs in their networks, because out of this view comes a set of Rules which are even more biased towards the TNSPs than is the current set of Rules.

The MEU and MEG are very disappointed with the latest set of proposed Rule changes. The AEMC's review is based on conceptual analysis and there does not appear to have been any empirical analysis or evidence to support its decisions. Even more disconcerting is its apparent dismissal of MEU's and MEG's empirical evidence, as there is **no** discussion of the relevant findings, notwithstanding the AEMC's statement that is had considered the views of stakeholders. The integrity of the new national regulatory arrangements and institutions depend on careful and objective assessment of stakeholder views, and a willingness to openly debate key issues arising. Not to do that explicitly is a denial of natural justice and means consumers would have to seek redress in other jurisdictions.

As is required by the National Electricity Law (NEL) objective, the MEU refers the AEMC to the NEL requirement of the AEMC in that it must address the issue of the changes to the Rules in terms of ensuring "…**the long term interests of consumers …" and that this will be the focus of their deliberations.** As the MEU membership represents exclusively electricity consumers (and not consultants, supply side entities or government entities), the views expressed in the earlier submission and again in this supplementary submission are those of consumers. In particular the MEU is required by its members that all of the views expressed by the MEU must not only represent the views of large consumers of energy, but that the views expressed must not be detrimental to the needs of small and residential consumers, as many of the businesses are regionally based and therefore are dependent on the residents and small businesses located in these regions.

1.1 Summary of the MEU initial submission

In its initial submission, MEU pointed to the detriments to consumers inherent in the proposed draft Rules. The MEU notes that the AEMC states that it has considered the views put to it in submissions but a review of the

draft Rules and the supporting documents puts the lie to this in a number of aspects:-

The following are key issues where the AEMC has failed to address let alone undertaken any alternative analysis if the views are contested:-

- The MEU provided data that the costs of transmission (distribution) of electricity were rising significantly, well above the costs of inflation – the AEMC totally ignores this trend and the impacts it has on consumers, to the extent that it is not even addressed by the AEMC at all

- The MEU provided hard data that over the past five years the profitability of the utilities and the share prices for utility stock have greatly exceeded that of the market in general, to the extent that share prices for utilities have doubled the rate of price growth of the market in general and the associated market risk premium for utilities stock is twice that of the market in general – the AEMC has totally ignored this trend and the essential deduction from it that the utilities are being excessively rewarded for being monopolies and therefore need to be regulated

- The MEU provided hard data that the allocations of capex (needed for investment) by regulators generally matched the requests of the regulated businesses. That the regulated businesses did not always use this allowance (preferring to keep the return on the capex unspent) indicates that the businesses themselves had identified that there was no need for this expenditure – the AEMC has totally ignored this and insisted that a more relaxed regulatory environment will encourage more investment

- MEU provided feedback that in a number of cases the allocation of capex granted was constrained by the perceived inability of the regulated business to actually spend (and properly control) the funds granted in the time before next review – the AEMC has not even addressed this constraint.

- MEU provided data that utilities are so attractive an investment that they are being used by aggregators to provide excessive fees to financial engineers – the AEMC has not even addressed this concern, continuing to view the need for encouraging investment.

- The MEU observed that there has been no lack of investment under the existing Rules (even to the extent that some regulated businesses actually exceeded their capex allowance) yet the AEMC persists in its view that

conceptually investment needs to be encouraged and the way to do this requires a bias towards the regulated businesses.

- The MEU commented that the entire focus of the AEMC is towards the needs of the regulated businesses, yet the investments made by consumers of electricity (both in the residential and productive markets) far exceed the investments made by regulated businesses. That these consumer investments can be put at peril due to the rising costs imposed by these monopoly businesses with their burgeoning profitability has not been considered at all by the AEMC.

1.2 The desired outcome

Of major concern to consumers is that the signals for TNSP investment must be clear and allow sufficient time for the new assets to be constructed and ready for dispatch before load must be shed to ensure integrity of the system. At the same time, consumers do not want to pay excessively for excessive costs that are providing the low risk regulated businesses a profit and share growth that far exceeds their own..

The NEL requires the AEMC to address the issues in light of the long term interests of consumers. Thus the basis of the AEMC deliberations must be assessed in these terms.

Consumers want in their electricity supply:-

- simplicity – there is enough complexity in their own business
- prices to reflect the cost of the provision of the commodity – getting value for money
- prices to be consistent and stable – to allow sensible budgeting
- sufficient electricity to be available to match their own growth and to be reliable – to allow them to get a return on their investment

When these desires are reduced to elements being addressed by the AEMC, these convert to:-

- sufficient capex is to be provided in the regulatory decisions to maintain the reliability of the transmission network

- the regulated businesses not being over rewarded at the expense of productive business

- being able to see clearly that the regulator has not provided a return to these low risk businesses that cannot be replicated in a competitive environment

- the regulated businesses investing only where there is a real need and not investing to create "gold plating" and

- predictability in costs and prices over the longer term.

With this basis of what consumers need and the approaches that consumers see as being needed to achieve their goals, the MEU recommends t6he AEMC should use these outcomes as the basis of their deliberations.

2. Encouragement for Investment

The AEMC consistently states that it is addressing the review of the Rules with a view to encouraging investment in the transmission networks. It avers that by encouraging such investment, such an approach is in the long term interests of consumers. Whilst this view has some validity it also carries with it the responsibility for the AEMC ensuring that the degree of encouragement provided by the proposed changes in the Rules, is in fact in the long term interests of consumers.

Unfortunately nowhere in the draft determination does the AEMC demonstrate that the current Rules are in fact detrimental to such encouragement. Neither do they address the view that there is a point beyond which such increased encouragement might be detrimental to the long term interests of consumers. The AEMC relies purely on the conceptual view that more encouragement is better for investment, and the observations of the regulated businesses that they require such encouragement.

It is essential that to support the contention that increased incentives are required, the AEMC must first demonstrate that the current Rules do not provide the needed incentives. Unless it can demonstrate that there has been insufficient investment then the basis of the contention that incentives are required is based on a false premise.

Consumers demand that the AEMC provide the justification of this premise. If the premise is false then the increase in incentives cannot be in the long term interests of consumers. The AEMC has failed in its core responsibility to consumers by not demonstrating there is a need.

2.1 Introduction

In its report attached to the proposed draft Rules, the AEMC offered the following two key themes which it has used as the basis for its review.

- "Aligning incentives for TNSPs to invest in, and operate, transmission networks in a way that delivers efficient outcomes for the electricity market, market participants and consumers; and

- Increasing clarity, certainty and transparency of economic regulation so as to provide a more certain regulatory environment for efficient long-term investment." (Page 9)

These self same themes are included in the report attached to the second draft Rules. The MEU made the observation that the current Rules do not achieve these aims. In fact the changes made in the second draft Rules, go further in providing the TNSPs with the ability enhance their earning of improved returns at the expense of consumers.

The themes state that aligning incentives of TNSPs with those of the market, market participants and consumers will result in delivering efficient outcomes in investment. This might be true, but the AEMC totally fails to demonstrate that this will result in an improvement in the long term interests of consumers – it purely relies on the conceptual basis that by achieving such an outcome must be in the interests of consumers. **There is no demonstration of the need.**

The MEU sought input from the AEMC that greater encouragement was needed to ensure there was adequate investment in the transmission networks **where it was needed**. The AEMC has carried out no examination of the market and current investment other than to accept the assertions of the TNSPs (and others) that they need more encouragement. Of course they would assert this – as would any monopoly seeking more revenue. The MEU provided some hard data confirming that there was adequate investment under the current Rules, but the AEMC has gone further in providing more incentives, but has not provided any supporting data confirming that this is needed.

There is no doubt that increasing rewards for TNSPs will result in them investing more in their networks. The critical assessment is whether the balance point has been reached – that needed investment has <u>not</u> been made due to insufficient encouragement. Inefficient investment results in detriment to consumers as has been seen by the cost levied on consumers for the Murraylink investment which provides consumers no relief from price separation, yet costs consumers for the provision of an asset which provides them with little benefit.

The MEU asks the very basis question – how is the added incentive to TNSPs to invest going to provide an increase in service that is not provided under the current investment regime? In this regard the MEU has seen monopoly service providers refuse to supply augmentation of facilities

unless the regulator provides a premium to the return it is granted under an appropriate regulatory regime. This ability of monopoly providers to force regulators to improve the profitability of their business to the detriment of consumers is detrimental to consumers

What is important is that there has to be a benefit to consumers for the improvement of return to TNSPs. The approach by the AEMC provides no discernable benefit to consumers but does obviate some of the concerns of government that by giving more to the TNSPs, governments can be seen to be doing something which costs them nothing but is paid for in an obscure way.

In its previous submission, MEU asked of the AEMC to demonstrate the benefits to consumers of relaxing the requirements of the Rules. The AEMC has elected not to respond to this very basic question. Consumers will point to this when it seeks redress elsewhere.

2.2 Profitability of the sector

In its previous submission the MEU provided th4e AEMC with blatant evidence that the TNSPs were receiving profits and returns well in excess of the returns assumed to be provided under the regulatory assessment. This view has been supported by analysis of the continued outperformance of the Utilities sector since this observation was made in March of this year. Over the past six months (see appendix A) the Utilities sector has even further moved beyond the ASX 200 in share value and at the same time maintained a superior dividend, implying an even greater market risk premium.

If this is indicative of the profitability of TNSPs, why is it assumed that more incentives are required?

Of concern to consumers is the implication of the changes suggested by the AEMC which will enhance the returns on investments made by TNSPs but not improve the market shortcomings sought by consumers.

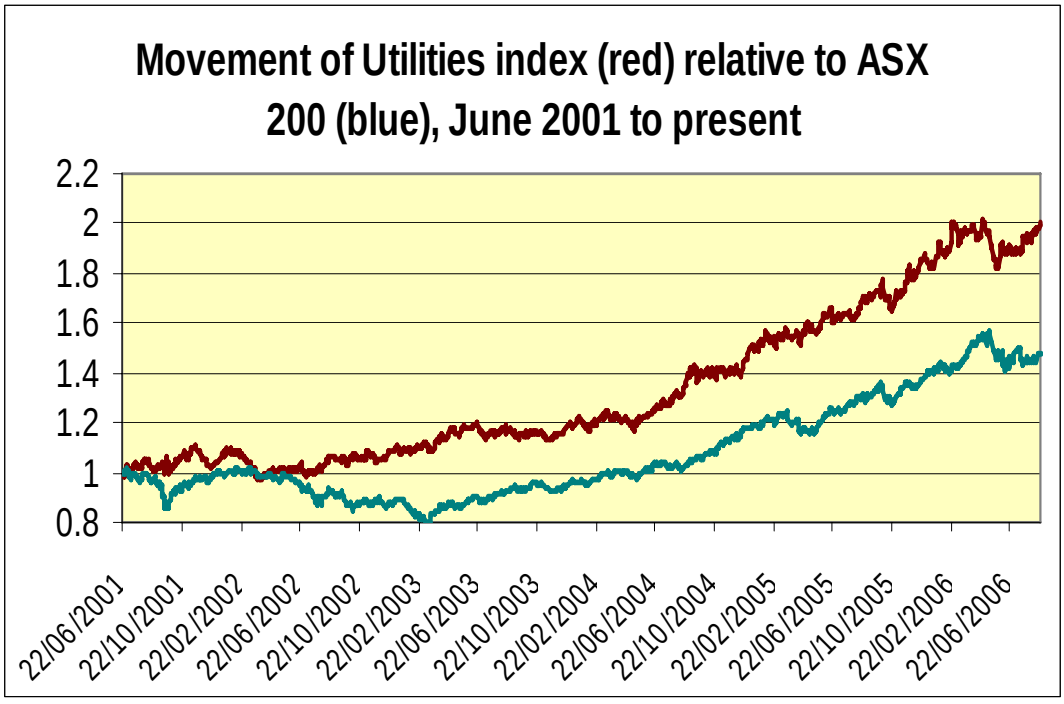
The AEMC suggests that the amount of revenue subject to performance criteria should be increased to 5%. The MEU supports this increase, yet it sees that by doing so, the TNSP is specifically encouraged to expend capital in those aspects of its business that will improve the performance figures included in the incentive program. This directly is in opposition to the

expenditure on assets which might reduce consumers costs (eg increasing interconnection capacity) on which the TNSP will receive no measurable benefit (and therefore no bonus) from any investment made.

Unfortunately, the process provided by the AEMC does not focus on all of the aspects needed for investment by TNSPs that will result in a benefit to consumers.

The MEU advised that examination of the investments made by TNSPs over the past decade shows that they are biased towards intra regional investment rather than inter regional investment. The new approach by the AEMC will only enhance this trend.

In its previous submission, the MEU provided an historical perspective of the enhanced performance of the Utilities Index[1]. An update of this tracking shows that this trend has continued – showing even further outperformance over the ASX 200 in the past six months.



Source: CommSec

During this period, there have been increases in interest rates, and some cooling of the economy. Yet, despite these detriments the Utilities Index has

[1] This index includes DUET, Hastings, Alinta, AGL, APT, Envestra, GasNet, SPI AusNet, and Spark Infrastructure which comprise over 90% of the index

continued to prosper when other sectors have fallen. At the same time the index has improved, CommSec calculated the index equity beta has fallen by 25%[2].

MEU suggested that a reason for the outperformance was due to high WACCs awarded by regulators for such low risk businesses. Unfortunately the AEMC has elected to ignore this fact, and has carried out no independent assessments to confirm that the MEU contention is soundly based. The MEU would have welcomed an open debate and indeed expected one for a review of such importance.

Due to the failure to assess the outperfomance of the Utilities sector, the AEMC is condemning consumers in perpetuity to pay an unnecessary and higher premium for the provision of essential services.

2.3 Where is the lack of transmission network investment which is supposedly needed to be encouraged?

The AEMC considered that it was important to incentivise the Utilities to invest. The MEU supports this as a concept but points to the need to identify that point where further incentives will not provide investment that is efficient. To continually provide more and more incentives to invest is economically inefficient if the outcome does not add to the interests of consumers. In fact to not identify where this point is, is certainly not in the interests of consumers. Essentially the AEMC has not addressed the long term interests of consumers as it is required to have done by providing increased incentives for the regulated businesses, without first examining where this balance point is.

What the AEMC has done is to address the innate concern that investment is necessary and that *conceptually* encouragement is needed. What it has failed consistently to do is to address a fundamental concern of consumers that there maybe already sufficient investment occurring and that the Utilities have sufficient encouragement to invest already. It is not acceptable for the AEMC to merely take the observations of the regulated businesses that they need more encouragement – the AEMC must satisfy itself through independent research that greater encouragement is needed before providing these incentives.

[2] See appendix 2 to the attached appendix A

The MEU did provide some research supporting a view that there is adequate investment occurring under the current arrangements, yet the AEMC has not acted at all in verifying that this is the case or that the MEU work is incorrect – the AEMC has apparently done nothing!

2.4 Business structures are providing for management and trailing fees which in the long term must eventually come from consumers.

The MEU raised a concern that the AEMC was aware that significant financial engineering is occurring in the Utilities sector and that these result in significant fees being levied. Further, it was pointed out that a number of related party contracts have been employed between utility owners and managers which increase the cost of operating the networks through the application of contract fees.

There is no indication in the AEMC draft Rules and the draft determination, that this is an issue that needs to be addressed by the regulator when undertaking a review – that these fees must be excluded from the opex and capex awarded by the regulator.

Indeed, a real concern for consumers is the need for network businesses to generate a high earnings stream to service high levels of debt fees and to pay dividends. This requirement (arising from financial engineering techniques) drives these network businesses to seek high levels of capex and opex at pricing reviews, which it may not even spend in order to generate a high level revenue stream to service such debts and payments.

2.5 The impact of gearing on networks operation

The MEU raised a concern that regulated businesses are operating at gearing levels well above the notional (low risk) level of 60%. Intriguingly the fact that many utilities are able to secure credit ratings similar to those assumed by AEMC for a 60% gearing, but at much higher gearing levels seems to have been overlooked. The AEMC has assumed that BBB+ is the correct rating for a 60% geared transmission business. That the ACCC had previously viewed that the rating should be "A" based on the security of the assets has been ignored by the AEMC who have been convinced by AGC (acting for the Utilities) that the inclusion of ElectraNet should reduce the credit rating, and that the AEMC should be conservative as well.

Again, this demonstrates that the apparent failure of the AEMC to undertake its own independent analysis may well result in decisions that are biased against consumer interests. For the AEMC to downgrade the credit rating for the notional TNSP from the "A" rating used by the ACCC to BBB+, is a decision to actively bias the return to be awarded by regulators in favour of the business and against the interests of consumers.

2.6 Equity Beta

The AEMC has decided that it shall require the AER to use an equity beta of unity. It has based this decision on the fundamental premise that most of the regulators consider that this is appropriate. The AEMC has carried out none of its own investigations, yet has elected to impose this decision on the AER, although the AEMC does accept that the AER might wish to change this figure in five years time, when the AER is required to investigate the input settings for development of the WACC.

The MEU provided "hard" evidence that the Utilities are considered to be more profitable than the ASX 200 companies when aggregated. One of the reasons for the outperformance has been that the returns granted by regulators are as high as they are. The MEU provided calculations pointing to the potential that the Utilities as a class have a market risk premium as high as twice the ASX200.

The AEMC assessed the various regulatory decisions over the past period (back to "the great WACC debate of 1998") and noted that equity beta has been set above and below unity since that time. What the AEMC failed to do was note that the above unity figures were applied almost exclusively in the early period of the past 8 years since the WACC debate, and in the last few years, equity betas awarded have tended to be below unity, implying that with the acquisition of a better understanding of the CAPM and its vagaries, regulators had been overly conservative in the early years.

In his advice to the SA Government after ESCoSA had awarded an equity beta of 0.8 for the SA electricity distribution business, and which was appealed by ETSA Utilities, Dr M Lally[3] provided a cogent argument to the SA Treasurer that the equity beta of 0.8 was appropriate, bearing in mind that the low equity betas observed in the late 1990s might be attributed to the "tech boom". This boom has now been over for half a decade yet despite this the equity betas for Utilities remains at the same levels observed during

[3] See SA Treasurer's review and response to ESCoSA after the ETSA appeal

the "tech boom"[4]. This surely puts the lie to the assumption that the exogenous factors artificially lowered the Utilities equity beta during this time.

The MEU recognizes that its assertions might be considered biased as they made to represent consumer views. However the failure of the AEMC to address this issue itself, apparently relying on the assertions provided by the TNSPs representatives and a distorted view of historical settings of equity betas used by other regulators, certainly does not warrant the AEMC setting an equity beta of unity in the current climate.

This matter is even of more of concern than is realized. The AEMC has removed a major risk faced by TNSPs in that there will no longer be any subsequent optimization of the RAB after it is "rolled forward". This reduces considerably the risks for TNSPs, yet the AEMC has determined that the risks for TNSPs has not reduced in that the AEMC is proposing to retain an equity beta of unity for a reduced risk profile. If the AEMC persists in its new approach of not permitting any ex post review of capex and allowing actual capex incurred being rolled forward, the risks faced by TNSPs fall even further.

On what basis can the AEMC continue to award the same equity beta when risks have been reduced?

2.7 Summary on encouraging investments

The AEMC has erred in not carrying out its own investigations into the various elements and assumptions behind its approach to "encouraging investment" by the TNSPs.

The AEMC has assumed that:

- The current level of profitability of the TNSPs is not sufficient to encourage investment, yet it has failed to carryout any investigation on this matter to assess the veracity of the assumption.
- There is not sufficient investment under the current Rules (if there was then the assumption immediately fails) the AEMC has carried out no investigation to verify the validity of the assumption or to identify at what point incentives should cease so as to prevent

[4] See appendix A, appendix B for equity betas calculated for the Utilities index for February and August 2006

inefficient investment which is not in the long term interests of consumers

- The financial engineering carried out by asset owners to maximize rewards for the TNSPs and the developers will not be a cost to consumers, yet there is no investigation to verify this is the case
- The credit rating for TNSPs should be reduced from that assumed by the ACCC. Admittedly the AEMC has carried out some investigation based on work provided to it by the TNSPs. Unfortunately, the AEMC has not investigated the full story and carried out its own investigations, for if it had, it would have identified there are inaccuracies in the work carried out.
- The equity beta of unity is typical of the asset class, yet provides no investigation that this is the case other than that previous regulatory decisions say it is appropriate. The AEMC ignores that fact that Lally (accepted by the AEMC as developing a view that the credit rating of BBB+ might be correct) is totally wrong in his advice to the SA government that an equity beta of 0.8 is more appropriate. Does this imply an intellectual inconsistency?

The AEMC has stated that it has tended to err in favour of the regulated businesses where there is doubt. The National Electricity Law does not permit the AEMC or any regulator to provide any bias towards the regulated businesses. The Objective clearly states that the decisions must be in the long term interests of consumers – there is no reference to the interests of the regulated entities in the Law. Thus for the AEMC to deliberately and with foresight, err in favour of the businesses is not consistent unless it can be clearly demonstrated (not by conjecture) that to do so will be in the interests of consumers.

3. Scope and Form of Regulation

The MEU notes that the AEMC has attempted to clarify the scope and form of the regulation applying to TNSPs. Generally, the MEU supports the proposed changes as they add clarity and certainty for all parties involved.

The MEU has some residual concerns which it believes that the AEMC needs to address.

3.1 Commercial Arbitration

The AEMC considers that a commercial arbitrator is better sited to assess a number of key aspects for resolution of negotiated services. Critically these involve:-

- the costs and timing of the augmentation,
- whether the augmentation is truly "contestable" or not, and
- a belief that commercial arbitration will be quicker than alternative approaches.

In its submission the MEU pointed out that the AER has the tools to assess the costs and timing of augmentations as this is a key function of the AER under its role for setting prices and costs for the prescribed services.

As the AER is a continuing body, it will have a degree of "continuing corporate knowledge". Having a variety of different commercial arbitrators to assess the reasonableness of costs and timing leads to the potential for different outcomes for different assessments, and therefore creates uncertainty. Why introduce a new party to the issue with the potential to create uncertainty?

The addition of a new requirement for the commercial arbitrator to identify whether a service is contestable or not, adds a totally new dimension to the responsibility for the arbitrator. Arbitrators are not appropriate to assess whether there is competition or not – this is a function allocated to the ACCC by the Federal government.

The AER being associated with the ACCC has the experience and the associated powers to determine whether an activity is truly subject to competition and to enforce this decision. The potential for the decision of a commercial arbitrator to be appealed to the Courts over its decision will be much greater than a decision of the AER/ACCC which also has responsibilities for other aspects of the activities of the TNSP.

The AER and the state based regulators already have responsibilities to

assess matters of disagreement between TNSP and users, and to ensure these are quickly resolved. The time associated with establishing commercial arbitration (and the necessary agreements required between the parties as to the "whom, how and when" for the arbitration will take longer than appealing to the AER which is already established and competent. If the issue is a matter of the costs that the AER/ACCC would incur in reaching a decision, then this can be addressed readily by setting an agreed schedule of costs for service.

3.2 Connections

A revenue cap approach does not incentivise a TNSP to add load which if it did would reduce costs to existing consumers. The AEMC has retained the ability of the TNSP to refuse to provide negotiated services. There is some validity in retaining this power for if the network is not capable of carrying additional generation or load, then the TNSP must have the right to refuse a new connection.

However, if there is no obligation on a TNSP to provide negotiated services (and specifically these include connection services as indicated on table 3.1) then it is able to refuse to add new generation or load to the network for any or no reason. If the TNSP has the power to refuse a connection (regardless of the reason) then there is potential for the TNSP to use its monopoly position to force an outcome to the detriment of the potential user.

Thus there must be an ability to verify that the TNSP has used its powers appropriately and not to the detriment of users. The AER is in a position to hear the reasons whether the TNSP has used its powers properly and to decide on the matter. This is not an issue on which a commercial arbitrator can decide, as the safety of the network might be a risk from a decision made. Such oversight and decision making must be made on a consistent basis which a full understanding of the needs of the network. This is a balance that the AER has when it determines on the costs and investment permitted in a revenue cap decision.

3.3 Summary of views

The concept of using commercial arbitration might have an initial attraction but when considering issues such as competition, consistency of decisions on costs and time, and the ability of a TNSP to prevent an issue even going to commercial arbitration, then the option of using the AER/ACCC (even on a cost reimbursable basis for acting as an arbitrator) provides greater confidence, certainty and consistency for all parties involved.

It was for these reasons that the AEMC has addressed the current Rules.

4. Regulatory Procedures

The certainty provided by a number of the changes made is welcomed.

The MEU and its affiliates have consistently been concerned that the ability of the regulated businesses to constrain the time available for review by delaying or providing insufficient information in a timely manner has acted to the detriment of consumers. Thus the expanded timing requirement for reviews is welcomed.

The Building Block approach is supported by the MEU as a sensible option.

The "propose/respond" approach as identified by the AEMC (and the Expert Panel) provides a logical way forward.

The degree of elevating to the Rules the elements of the review and retaining only the discretions below is a concern. The new approach prevents any optimization or ex post capex review from being entertained, despite the experiences of consumers that the TNSPs do not always expend the approved capital wisely. This issue is addressed in more detail in a following section.

- determination of forecast capital and operating expenditure;
- determination of asset valuations and approval of depreciation schedules;
- review and determination of WACC parameters and methodology every five years;
- cost allocation principles and criteria;
- pricing criteria for negotiated transmission services; and
- development of incentive regimes for efficient expenditure and service performance

When this list of elements which are subject to discretion is compared to the listing of elements which will be elevated to the Rules (and therefore no longer open to review), the outcome is certainly less than optimal and there are concerns that the AEMC has exceeded its responsibility to ensure that the long term interests of consumers has remained the focus of this review.

The AEMC advises that the following discretions and decision criteria for various elements of the building blocks revenue cap determination model are now specified in the Draft Rule:-

- Initial regulatory asset values are to be specified in the Rules and rolled forward using a model to be determined by the AER.
- Initial WACC methodology and parameters are to be specified in the Rules (based on the current requirements of the SRP) and to be reviewed and determined by the AER every five years.
- Depreciation schedules are to be nominated by the TNSP, accepted by the AER if they conform with Rules requirements or otherwise as determined by the AER.
- Forecast capital and operating expenditure are to be approved by the AER if it determines that they are reasonable estimates, having been assessed against a list of factors specified in the Rules.
- Cost efficiency and service performance incentive schemes are to be developed by the AER and the AER to approve parameter values proposed by the TNSP if they comply with the requirements of the scheme.

Examining each of these elements, which the Rules not longer permit future examination by the AER, MEU would comment that:-

- By setting the RAB for each TNSP, (except in the cases where the TNSP alone has requested a right of transition, such as ElectraNet over its valuation of easements) consumers are now tied to RAB valuations which include for extensive and unrealistic valuations. For example Transend listed on its books at the last review that the value of its assets was some $300m. The Tasmanian government unilaterally increased this value to $521m without any examination by the regulator for its reasonableness. Thus the AEMC has eliminated any opportunity for consumers to require the regulator to use realistic values for RAB
- The AEMC has unilaterally set WACC inputs without any debate as to the legitimacy of them, and locked these in for five years. The fact that in recent times regulators have used lower figures for certain inputs, convinced of the rightness of these new inputs, has been totally ignored
- The AEMC has not recognized that by the approach it has taken, the WACC inputs included in the Rules will be used for upcoming reviews, and so there is every chance that they will apply for up to nine year periods in perpetuity, as the AER will not only be able to change them in 2012, 2017, 2022, etc and therefore every review which occurs not in these years (eg in 2011) will have the same WACC inputs included in the Rules applying until their next review in 2016 – nine years hence. What the MEU recommended is that the inputs should be assessed based on current trends at the time, and failing this, if the WACC inputs should be fixed for five year periods, then they should be adjusted for all TNSPs after the 5

year review is completed and the adjustment used as a pass through for each business. Allowing some TNSPs to have the WACC inputs locked in for 9 nine years is inequitable for consumers and those TNSPs which have a review fall on the 5 year anniversary, and so only have the inputs fixed for a five year period.

- Depreciation schedules being permitted to be set by the businesses allows them to maximize their revenue at the expense of consumers paying for the return of capital. This matter is more fully examined in a later section and in Appendix A to this submission.
- The principle of accepting the TNSP estimates for opex and capex providing they are "reasonable estimates" would appear to be fraught with danger. There is no definition as to what constitutes "reasonable". To what degree is this range of "reasonable" – 1%, 5%, 10%? Reasonableness is in the eyes of the beholder. If the estimate of the TNSP is higher than the estimate of the AER (as is the most likely scenario, then allowing reasonableness is only a surrogate for allowing higher costs to be levied on consumers.

These issues were raised by MEU in previous submissions yet the AEMC has continued to ignore the concerns, preferring to embark on its voyage of increasing incentives for investments by TNSPs without ever examining whether they are needed and at what point improving incentives to TNSPs is no longer efficient.

The MEU is of the view that these restraints will increase inefficient costs to consumers, and therefore the AEMC is required to assess the benefits of the increased "clarity" and "certainty" that these restrictions bring, against the detriments they most certainly will impose on consumers.

5. Regulated Revenue

The revenue and the performance of the monopoly TNSP is supposed to be assessed (effectively subjected to competition) by the concept of comparing its needs and performance to others. This is referred to in the regulatory handbooks as competition by comparison.

This concept only applies if the comparison is based on a notional TNSP, allowing the TNSPs to operate outside the notional structure to suit their own specific needs. If the regulator is required to assess the RAB, capex, depreciation, WACC and opex on a basis unique to the TNSP then the whole concept of providing notional competition by comparison is destroyed.

The MEU advises that consumers accept the notion of competition by comparison based on a notional TNSP, but only if all elements of the assessment are based on the same premise. Once there are deviations to the basic theme of a notional business, then comparisons become so much less useful and ultimately destroy the basic approach.

The MEU considers that the regulatory approach must be based on a notionally structured business, and that no elements should be modified to suit the desires of specific TNSPs.

5.1 Reasonable Estimate Test

The AEMC has elected to retain its approach to assessing "reasonable" costs to be included in the allowed revenue. It has added two new items to its listing of criteria that the AER must use in assessing the "reasonable" cost.

This list of criteria is:-

- the information included in the Revenue Proposal;
- the need to comply with regulatory obligations;
- submissions from interested parties;
- information published by the AER prior to decisions regarding the Revenue Proposal;
- the actual and expected operating and capital expenditure;
- the extent that forecasts are referable to arrangements with a person other than the provider that might not be on arm's length terms;
- reasonable estimates of an efficient benchmark TNSP;
- the reasonableness of the demand forecasts;
- the relative prices of operating and capital inputs that prevail at the time for that particular TNSP;

- the efficiency of substitution possibilities between operating and capital expenditure that may exist for that particular TNSP;
- whether the total labour costs are consistent with the incentives provided by the service performance incentives scheme; and
- whether the forecast expenditure includes amounts relating to a project that should more appropriately be included as a contingent project.

The AEMC avers that using this approach the AER will be following the approach used by regulators for the past decade.

What is of concern to MEU is that there should be an explicit statement that the approach to be taken b y the regulator should recognise that the entire examination is a balance of competing interests (eg if less capex is used then there is likely to be a need for increased opex).

Thus the AER should be required to assess the balance between competing elements of the building block approach. The comment made in the previous section is that there is no definition of what is reasonable, or what range is considered to be reasonable. Thus if the AER assesses one element of the building block approach to be reasonable, then it must ensure that when it assesses other elements of what was accepted as reasonable in another element. The concern is that the TNSP has the ability to debate the "reasonableness" of one of its claims in isolation. The revenue determined by the AER must also be seen as reasonable as well as each element.

There have been appeals made by regulated businesses based on a disagreement over one element of a decision. As the SA Treasurer points out succinctly in its review during the ETSA Utilities appeal:

> **"2.2 Holistic nature of Final Determination**
>
> It is important to note that ESCOSA has made a Final Determination with respect to the electricity distribution network pricing for ETSA Utilities as a holistic and integrated determination.
>
> In effect, the Final Determination is made "on-balance" after considering a range of input components. Probably, the best example of this is the Weighted Average Cost of Capital (WACC), where a range of components come together to determine an appropriate single rate of return.
>
> ETSA Utilities has sought a review of only the equity beta component of the WACC, whilst leaving other components

> unchallenged. I note, however, that decisions on the components of the Final Determination are not taken in isolation, but rather taken together to form a collective view on a reasonable price, that is consistent with ESCOSA's statutory guidance, in particular, protecting the long-term interests of consumers.
>
> The Government notes that the inclusion of a "Q" factor correction, which effectively ameliorates the volume risk faced by ETSA Utilities, must systematically lead to a lower equity beta.
>
> The approach of ETSA Utilities in what is effectively "cherry picking" perceived unfavorable components, is likely to be contrary to the long-term interests of consumers which, in the Government's view, were met by the Final Determination.
>
> It is the Government's view that regulatory decisions are made "on-balance.""

Thus "on balance" the MEU sees that the Rules must require the AER to address the valuation of each element of the building block recognising the holistic nature of its individual assessments being part of the whole, and accepting there are trade offs which need to be recognised.

5.2.1 Regulatory Asset Base and Capex

In its proposed draft Rule, the AEMC recognized that there needed to be some degree of pressure on the TNSP to control its capital expenditure during a regulatory period. The AEMC considered that an ex post review of the capex incurred in the previous period, but not earlier periods, should be undertaken to ensure that capex to be rolled forward was in fact demonstrably efficient and prudent.

This draft determination proposes to remove this requirement for capex to be demonstrably prudent and efficient, and that actual capex incurred, regardless of this requirement, be automatically rolled forward and included in the RAB. It basis this decision in the (vain?) hope that the incentive package for capex investment will ensure efficient and prudent capital investment. What the AEMC entirely overlooks is the way a profit driven business operates.

With the support of MEU, the AEMC has increased the incentive regime for achieving benchmark performance from 1% of revenue to 5% of revenue. This has the incentive for awarded capex to be applied to those assets which will provide an outperformance against those benchmarks which will deliver a bonus.

An increasing number of TNSPs develop their capex programs on a probabilistic[5] approach rather than a deterministic approach. This trend denies an ability of the AER to assess whether projects will be prudent and efficient, unless every project that is included in the development of the probabilistic assessment is assessed for prudency. The second draft Rule (6A.6.7 (b) (2) (iii) clearly requires that the AER must accept capex that meets the Regulatory Test (RT). This implies that every augmentation proposed by the TNSP in a review that may be undertaken has been assessed for compliance with the RT. The AER (or the ACCC) has never embarked on such a detailed examination of future projects. In fact the AEMC itself sees this approach is unlikely to occur, when it states (page 22) in relation to negotiated services,

> "This is in marked contrast to the higher level scrutiny of expenditure forecasts that is applied by the regulator in determining an *ex ante* revenue cap for the purpose of recovering the efficient costs of providing prescribed services. In that situation, project by project scrutiny of cost forecasts is neither feasible nor appropriate. Rather, the efficiency of expenditure forecasts is tested at a highly aggregated level based on historical trends, benchmarks and the like. There is good reason, therefore to restrict the services covered by revenue cap regulation to the standard use of system services that are supplied under monopoly conditions and to promote bilateral commercial negotiations of the price and conditions of supply of other transmission services wherever that is feasible."

This means that if a probabilistic approach to capex is used there is no way that the AER will be able to pre-approve projects in an ex ante process, as the projects are not specifically nominated and determined, and even they are, the AER approach is only at a high level scrutiny. The ex ante approach specifically identifies a sum of money that the TNSP can spend over the next period. If there is no ex post review at the end of the period, of the projects actually undertaken there can be no valid method for the regulator to accept that all the projects have been efficient and prudent. Further, even if the AER does approve an amount of capex accepting the validity of the RT at the time the assessment is made, the AEMC advises that the actual amount of capex incurred will be rolled forward, without any subsequent verification of what the capex achieved in regard to reliability, security or augmentation, or if the amount was as estimated at the time of the review.

Thus implicitly the AEMC is accepting that there will be little or no review of capex to ensure that it is efficient and prudent, as all capex actually incurred by the

[5] See for instance the approach by Powerlink to developing capex needs.

TNSP will be roiled forward. The AEMC claims that there was no support for there being an ex post review of capex (page 73 of the draft determination). The AEMC is wrong in stating this as MEU did raise this very issue and advised that an ex post review was that only way to ensure that the actual capex to be rolled forward was in fact prudent and efficient.

It would appear that, particularly if the capex is estimated on a probabilistic approach, the AEMC assumes that the TNSPs will not act in their best commercial interests and will not attempt to game the freedom given by the changes to the Rules.

This is not in the interests of consumers, nor does it meet the essential requirements of good regulation.

Further, the incentive program for capex, relies on the initial assessment of capex being a reasonable view of future capex needs, but as there is no method for identifying ex post which projects were needed, the only incentive for the TNSP is to ensure that is spends less on capital projects than it needs. Without an ex post review it is therefore entirely possible that projects that were included in the capex allowance can readily be deferred into the next period and so require consumers to pay for the capex not demonstrated at any point of the review to be efficient or prudent.

The MEU and its affiliates have previously accepted that a probabilistic approach to capex is not an unreasonable approach, and is fact used by businesses in the competitive environment. What was never accepted that if the probabilistic approach is to be used, that there be no ex post review of the projects funded from the capex allowance. The MEU can see that the TNSP will be encouraged by profit motives to seek to defer capex from one period to the next and be awarded a bonus for under-run of capex.

The MEU sees that the combination of the probabilistic approach to capex setting combined with no ex post review of projects actually undertaken, provides a dual incentive on TNSPs to

1. Increase the amount of capex dedicated to those projects which will increase the opportunity for the TNSP to achieve performanced based rewards, and

2. Encourage the risk taking approach of deferring projects included in the probabilistic assessment into the next period and thus earning a capex incentive bonus.

The MEU accepts that once capex has been accepted as prudent and efficient,

there should be no subsequent optimization. However, to combine this feature without an ex post prudency review, then the decision by the AEMC is not in the long term interests of consumers as the incentive drivers must be to prudently invest.

5.2.2 Grid Support

The second draft Rule proposes that grid support payments should be a pass through when they are incurred. Grid support payments are payments made to a generator or load as an alternative to providing augmentation to the network. For example, a generator may offer adequate backup to the network in order to provide for a credible contingency, as an alternative to building new network assets.

Thus grid support is an alternative to capex. Therefore if the forecast capex includes for augmentation of the network which is then deferred or replaced by grid support, then to allow the pass through of the costs of the grid support duplicates the cost of the network augmentation which is included in the capex forecast. In this case if the grid support payment is included as a pass through cost, and the capex allowance provided is not adjusted, then consumers will be in effect paying twice for provision of the same service.

The second draft Rules requires the TNSP to provide independent and appropriately qualified input to the needs of the grid support and the costs associated. The MEU would point out that any review commissioned by a party which benefits form such a review can hardly be assumed to be unbiased. The MEU would suggest that the AER undertake its own reviews and seeking independent advice.

It is noted that only positive network support events are to be included in any pass through. This requirement adds weight to the MEU view that any grid support payment that is to be passed through must be netted off against any capex that is included which is not required as a result of the grid support pass through.

The MEU considers that grid support services which replace planned capex, should not be allowed to be passed through into the revenue, as to do so is an increased cost to consumers which delivers no benefit, and therefore is not in the interests of consumers.

5.3 Return on capital

The draft decision states that return on capital is intended to be a forward looking estimate of the costs of funds required for the ensuing five years. This is encapsulated in Rule 6A.6.2 (j) where the AER must have regard to

> "… the need for the rate of return calculated for the purposes of paragraph (b) to be a forward looking rate of return that is commensurate with prevailing conditions in the market for funds and the risk involved in providing *prescribed transmission services*:"

Despite this requirement the AEMC has determined that:-

- The WACC inputs for the next five years will be fixed, and that any decision of the AER over the next five years will use these inputs, effectively extending the use of these inputs for up to nine years – this is hardly a forwardly looking estimate
- the market risk premium will be 6% yet the AEMC has made no examination that this is a correct figure at this current time
- the equity beta will be 1.0 – despite the fact that many regulators have recently used lesser values than this
- the debt premium will be derived from a credit rating of BBB+ - despite the fact that the AEMC assessment would indicate this is too low
- gamma will be 0.5
- the TNSP has the right to select the period over which the nominal risk free rate will be assessed.

The MEU has discussed the issue of an appropriate value for equity beta in section 2 above, and addressed in section 4 above the concern that fixing the inputs every five years will provide inequity for consumers and between TNSPs.

The MEU, its affiliates and others have provided advice to regulators that the market risk premium is probably lower than 6%. Regulators have consistently opined that there is some evidence that the level of 6% is conservative, yet they are unable to identify what figure might be more appropriate.

In section 2.5 above it is pointed out that an assumed credit rating of BBB+ for a 60% geared enterprise with low risk is excessively conservative and does not reflect the actuality of the credit ratings for equivalent businesses.

In response to this the AEMC points to the fact that a number of the TNSPs are government owned and therefore ought to have a higher credit rating. This is borne out by a review of table 5.3 where the government businesses

are all rated AA or higher. Interestingly each of these government owned businesses has an average gearing just under the 60% assumed for the notional TNSP. Of the others all are privately owned except ElectraNet which is 41% government owned (via Powerlink), and most exhibit a gearing in well in excess of 60%. Further it should be noted that ElectraNet has been rated BBB+, probably because it's gearing is higher than 60%. In fact a review of the financial statements of Powerlink reveals that ElectraNet has maintained a gearing level ranging from 88%[6] to well over 90% since it was sold. Thus the gearing of ElectraNet as assumed by Lally could only be a short term value, and is not a true reflection of its long term gearing which would be the basis on which S&P would have based their rating.

Table 5.3: Standard & Poors (2006) Electricity TNSP & DNSP Ratings

Firm	Rating	Owner	Business	Leverage
Ergon Energy	AA+	Govt	Dist	46%
Country Energy	AA	Govt	Dist	68%
EnergyAustralia	AA	Govt	Trans/Dist	52%
Integral Energy	AA	Govt	Dist	55%
SPI PowerNet	A+	Private/Govt	Trans	77%
SPI Australia	A+	Private/Govt	Dist	64%
Citipower Trust	A-	Private	Dist	54%
ETSA Utilities	A-	Private	Dist	64%
Powercor Australia	A-	Private	Dist	38%
ElectraNet	BBB+	Private/Govt	Trans	72%
United Energy	BBB	Private	Dist	80%

Source: Lally, M., The Appropriate Credit Rating for Australian Electricity Transmission Businesses', March 2006, in Australian Energy Regulator submission, March 2006

It is from this table and the view of AGC acting for the Utilities that the AEMC derives its view that BBB+ is the correct credit rating for the notional TNSP geared at 60%. The AEMC consultant Dr Lally opined that an appropriate gearing was A- based on his research. AGC acting for the TNSPs averred that ElectraNet had been excluded from the analysis of privately owned businesses (even though it is 41% owned by Powerlink, which is 100% owned by the Queensland Government), and that by including ElectraNet the rating should fall. AGC go4es on to say that the

[6] See Powerlink financial statements. In the Annual Report 04/05, note 11, ElectraNet is citied as having assets of $523m and liabilities of $468m, implying a gearing of 89%.

AEMC must be conservative and that a "plausible" assessment of the Lally work is that BBB+ is appropriate.

The AEMC has decided that BBB+ is the correct figure for the next 5-9 years. It states on page 65 it is setting this value in spite of the absence of conclusive empirical data and other submissions on the issue. It later then goes on to state that it has received sufficient empirical evidence that BBB+ is the correct setting. The MEU disputes the very simplistic analysis provided by the AEMC in reaching its decision.

In the table the only businesses that do not have a credit rating of A or better are those with a gearing in excess of 70%. The notional TNSP has a gearing of 60% and it is expected that a higher credit rating would apply to a more lowly geared business. It is only the state based regulators in assessing the distribution businesses that have used a rating of BBB+ for businesses which have an increase risk exposure which TNSPs do not face, due the volume risk they take under a price cap regime.

For the AEMC to unilaterally reduce the credit rating used by the ACCC in previous reviews (and supported by independent assessment by Lally) is patently absurd. There is no rationale at all for the AEMC to discount the credit rating and then observe that it is for the AER to examine in the future.

The AEMC by fixing these critical inputs into the Rules, is effectively stipulating that despite reservations that the inputs are too high, it prefers to cause consumers to pay a higher price for use of transmission assets than might be needed.

The AEMC has made a number of changes to the Rules which it clearly states are designed to and will result in more certainty (read less risk) for the TNSPs. Yet despite these changes which reduce risks to the TNSPs the AEMC is enshrining what have been accepted as conservative input values *before* these changes were made.

The AEMC has reduced risks to TNSP but also increased their return on assets but made no attempt to assess whether the outcomes of its decisions are supported by benchmarking.

In the attached Appendix A, it was observed that the cost for debt on homes over the past 40 years implies that the WACC derived using this as a basis rather than the 10 year bond rates, is some 70-80 basis points lower than

that derived from the 10 year bond rate, using the same input values and gearing. Another way to assess this would be to assume the risk free rate is the same and varying one or more input values. Using this as a benchmark and retaining the debt market premiums implies an equity beta of about 0.85.

Thus on benchmarking the equity beta under the old Rules should not exceed 0.8 – 0.9. With the reduction of risks included in the second Draft Rules, there should be a further reduction of equity beta, to perhaps 0.8.

This new figure replicates the equity beta recommended by Lally to the SA Treasurer (see appendix B) and the equity beta determined by ESCoSA for ETSA Utilities. As the TNSPs have a revenue cap and ETSA was exposed to some risk on market volume there is a case that equity beta for TNSPs with their guaranteed income should be a lesser amount – perhaps 0.75. This replicates the equity beta used by ESCoV in its decision on the water businesses in Victoria[7] where an equity beta of 0.75 was used.

In appendix 2 to Appendix A, there is included a review of the equity betas provided by Commonwealth Securities for each of the market sectors in the ASX listing of companies. TNSPs are included in the Utilities index, along with privately owned electricity distribution and gas transport companies. CommSec provides a sector equity beta of about 0.3 and the trend shows this value has reduced over the past six months. The major part of the market (as typified by the ASX200) has an equity beta in the range of 1.0-1.1 but also reducing over the past six months. By definition, the market as a whole has an equity beta of unity.

The MEU considers that is sufficient evidence that equity beta at least should be reduced to 0.8 in order that the Rules provide the basis of a forward looking WACC for the next five years.

Further that as the two privately owned TNSPs (SP Ausnet and ElectraNet) have actually attained a credit rating of BBB+ or greater with a gearing of over 70%, puts the lie to view of AEMC that the notional TNSP geared at 60% business should have the lowest credit rating actually achieved by a TNSP with a gearing in excess of 80%. The ACCC is correct in that the credit rating for the notional TNSP is "A" and the MEU concurs.

[7] ESCoV June 2005 Water price review metropolitan and regional businesses' water plans 2005-06 to 2007-08 Final Decision

5.4 Depreciation

The second Draft Rule persists with the view that the TNSP should be permitted to set its own depreciation schedule. The AEMC has required that the assets be depreciated over their economic life. This approach moves away from the concept that the TNSP is being "exposed to competition by comparison ". The whole purpose of basing costs and structures to the notional business is that this provides an equitable and replicatable basis for comparing the performance of each unique business.

The MEU considers that to allow a TNSP to set its own depreciation schedule is not in accordance with the basic premise of competition by comparison that underpins the regulatory approach used in Australia.

The issue of depreciation has been examined further by the MEU as part of a study to examine why it is that the Utilities as a whole are out performing the market average. This outperformance was raised by the MEU in its submission to the proposed draft Rule and further developed in the public forum. The MEU considered that in part the regulatory approach to depreciation might be a significant contributor to the out performance.

Attached to this submission, (appendix A), is a monograph prepared by Headberry/Lim examining the impact of different approaches to depreciation. It assesses the costs of depreciation and return using the depreciated actual cost (DAC) basis as used by the ATO and public companies, and also the regulatory approach to depreciation and return. The appendix is the latest revision of this monograph and includes more recent examination of the issues surrounding regulatory depreciation.

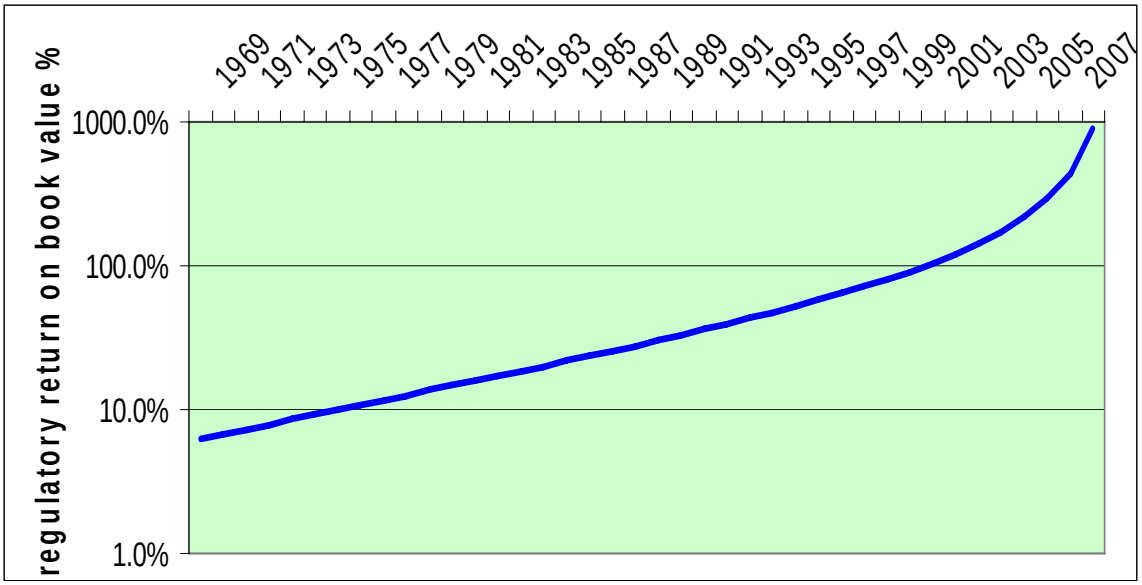
As a tool for benchmarking, it was assumed that housing interest rates have a similar risk profile to the TNSPs, and the "Home Equity approach" was used to provide a point of comparison (a benchmark). This shows that the Home Equity approach would have an effective interest rate of 2/3rds of the regulatory approach, although this approach does include for a 70-80 basis point reduction in notional WACC as well. This would reduce the effective interest a little but offsetting this is the fact there is no depreciation of the debt element of the asset.

The following table is an excerpt from this monograph and it summarizes the cost impacts of depreciation and return on the depreciated assets. It then relates the total cash flow from depreciation and return as a notional fixed payment to be made to provide the cash under the different approaches and then relates this to a fixed interest rate that a lender would require for supply of the initial investment. The outcome is based on the average CPI, 10 year bond rates and home interest

rates published by the Reserve Bank over the past 36 years and extrapolates these figures as would a regulator for the next four years.

Approach to investment	DAC	DORC	Home Equity
Initial investment	$1,000	$1,000	$1,000
Period of investment	40 years	40 years	40 years
Depreciation rate	2.5%	2.5%	2.5% on $400
Payment for depreciation (recovery of investment)	$1,000	$3,754	$400
Residual value of investment	$0	$0	$600
Payment for use of investment	$2,485	$3,157	$3,680
Total payment for use and recovery of the investment	$3,485	$6,911	$4680
Required annual fixed payment for use of $1000 investment for 40 years	$87	$173	$117
Effective interest rate[8]	8.4%	17.3%	11.6%

The return the business makes against its depreciated asset value as determined under the ATO Rules (the book value) is as shown blow.



[8] This is the interest rate that would be paid for use of funds with the principal being paid back at the end of the period.

Out of this review there came a number of salient facts:-

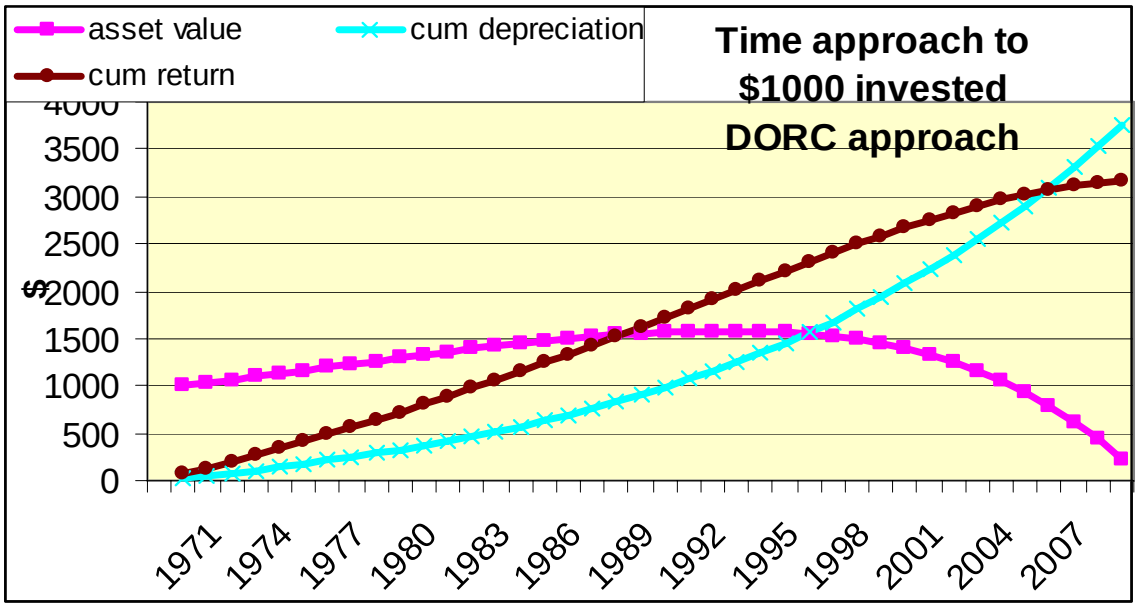
1. Regulators use the WACC as a discounting rate to assess whether the different approaches have the same net present value. This discount rate bears no relationship to consumers, and as consumers assess the value of the cost of the service in relation to CPI, this is the correct discount rate to use, as it is the interests of consumers that must be the focus of any comparative analyses.

2. The regulatory approach to depreciation causes consumers to contribute more funds to the business than the business provides for its own depreciation, effectively increasing the return the business earns above the WACC developed.

3. The effective interest rate on funds employed under the regulatory approach (ie the DORC approach) is twice what the business attributes for the same assets under the ATO rules (ie under the DAC approach).

4. The return on the asset as declared by the business to its shareholders dramatically increases each year, starting at a level well in excess of the sector dividend (CommSec advises this is about 5%) and increasing annually in significant amounts, supporting the premium the market is paying for Utilities.

5. Under the regulatory depreciation approach, the depreciated value of the asset (RAB) actually increases to a maximum value of 60% above the initial investment, before falling to zero after 40 years. This is shown on the following graph. Consumers pay the return on this inflated amount.



The approach to regulatory depreciation requires consumers to pay significantly more for the use of the asset than is implied by the WACC used for this purpose.

The MEU considers that the AEMC must address the fact that consumers are paying in excess of a reasonable allowance for depreciation, and the approach to depreciation significantly increases the amount of funds consumers are required to pay.

5.1.4 Opex and Capex

In section 4 above the MEU points to the concern that there is no definition as to what constitutes "reasonable". The residual concern held by the MEU is that there will be debate as to what constitutes this limit and there is no doubt that the TNSPs will use the fact that there is no firm outcome from a review and that the TNSP can either drive the allowance upwards by argument with the AER as to what constitutes reasonable, and ultimately appealing a regulatory decision based on the TNSP concept as to what constitutes "reasonable".

The MEU considers that the Rules should explicitly state that the AER is the sole determiner of what constitutes "reasonable" in light of its review and the views put to it by Interested Parties.

5.2 Reopening of Revenue Cap for Capex

There is a degree of logic in allowing the AER to have some degree of involvement over whether to include in the forecast capex program a potential need which might not occur in the next period, of if the costs are

sufficiently uncertain. If the need does arise then allowing the AER to include some of the work by way of a re-opening review, provides certainty for the TNSP and limits the exposure of consumers to a capex inclusion which might not eventuate.

The main concern for consumers is that this ability can be misused, either by a deliberate attempt at gaming the regulator, or by permitting the TNSP to be less diligent at the time of the review.

This freedom must be controlled, and the MEU considers that there must be a strong case to justify the re-opening.

5.3 Pass through Arrangements

The AEMC advises that it intends to retain the pass through provisions as included in the proposed draft Rule. It explains that this is a key part of the review as it reduces the risks faced by TNSPs.

The AEMC has determined that the return on assets calculated under the CAPM formula effectively provides the TNSPs with a return earned by the "average" business operating in Australia, as the WACC is based on the average MRP, average beta and average gamma.

What the AEMC omits to advise is that under a competitive regime there is no automatic pass through of any events (exogenous or endogenous) which impact the "average" business. Thus by allowing the pass through of these events, the AEMC has reduced the risks faced by the TNSP, but at the same time allowed it to enjoy the same return as the "average" business operating in a competitive environment.

This approach is yet another incentive enjoyed by TNSPs at the expense of consumers.

6. Incentive Mechanisms

6.1 Service Standards

The MEU supports the move to make the incentive on improving performance to be a maximum of 5% of the MAR. This adds significant power to improve performance and for the TNSP to focus its attention to those areas of lesser performance.

This higher powered incentive on performance outcomes must be backed up by soundly developed and measurable outcomes. We note that the AEMC has passed this responsibility to the AER to address.

However there is a concern that the performance incentive will be inter-related with the capex and opex incentives, and cause a bias in the way opex and capex is applied.

Performance is enhanced by better operational approaches but is also addressed by expenditure of capital and increased opex. Thus the driver will be for the TNSP to invest the approved capex and opex in those aspects which deliver the most increase in performance, at the expense of other just as deserving aspects of the business. In this way consumers would be paying for the capex and opex used to generate the service standards performance bonus.

It is recognized that it is the responsibility of the AER to prevent this bias occurring, so MEU recommends that the Rules require AER to ensure that the service performance approach recognizes this feature and potential for gaming.

6.2 Capex and Opex incentives

In section 5.2.1 above the MEU points to the disturbing feature that there will be no ex post review of capex to demonstrate prudency and efficiency. At the same time the AEMC proposes that actually incurred capex will be rolled into the RAB. Thus, as pointed out earlier, there is potential for the capex incurred not to be prudent or efficient, particularly if the forecast was based on a probabilistic approach.

The approach to the opex and capex incentives is based on two fundamental assumptions

1. That the TNSP will aim to reduce its expenditure as it is able to retain the benefit of the under-run for the balance of the period
2. The AER will use the under-run as the basis for its assessment of the future allowances.

The MEU raised the concerns that regulated businesses had in the past manipulated their expenditures in such a way so as to maximize the benefit of under-run yet at the same time convince the regulator that such under-runs were "not sustainable", thus achieving the savings but avoiding the inevitable reduction in future allowances.

There is no clear indication in the second draft Rules that this concern has been addressed.

Appendix A

Australian Energy Markets Commission

Review of the Electricity Transmission

Revenue and Pricing Rules

Regulatory asset values, depreciation and financial performance

Comments on the Revenue Requirements

Second Draft Rules

by

Headberry Partners P/L and Bob Lim & Co P/L

On behalf of

Major Energy Users Inc.

August 2006

The content and conclusions reached are entirely the work of Headberry Partners Pty Ltd and Bob Lim & Co Pty Ltd.

The input (DORC option) by the Essential Services Commission of Victoria to the original draft of this monograph is gratefully acknowledged by the authors, although the presentation and conclusions are those of the authors

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3. The Proposition

This monograph was initiated by an observation that regulated businesses are demonstrating an out performance against the market benchmark (ASX 200), despite the expectation that the lower risk faced by regulated businesses should provide a return less than the market benchmark[9].

It should be noted that some of this outperformance could be attributable to regulators consistently allocating Utilities with an equity beta of 1.0 whereas the observations made by Commonwealth Securities would appear to indicate a current equity beta of 0.3-0.4 is realistic[10] and that an equity beta of 1.0 is more appropriate for a risk profile in tune with the ASX 200 companies taken as a whole.

This monograph addresses a key concern regarding the benefit regulatory depreciation provides to regulated businesses as compared to companies operating in a commercial environment. It is based on the following proposition:-

1. The regulated business provides an asset for use by consumers.
2. Over time consumers pay for the use of the asset provided (calculated as real WACC*depreciated regulated asset base)
3. Over time consumers pay for the recovery of the regulated asset (investment) via depreciation (calculated as depreciation rate*depreciated regulated asset base).
4. At the end of the depreciation period, the asset is scrapped (ie it can be no longer used and has no value).
5. The service performed by the asset is still required so the regulator permits the business to replace the asset at its full current cost.

The principle of depreciation is that an amount is paid each year by an enterprise to provide funds to purchase a replacement when the current asset is scrapped. If consumers have paid for the depreciation on the asset, effectively they have funded the purchase of it. They are also required to pay a return on the use of that part of the asset they haven't funded.

Three methods of addressing the costs incurred by consumers are analysed:-

- The approach used by most businesses (ie depreciating the asset over the agreed asset life using the initial cost of the asset, as required by the Australian Taxation Office),
- The approach used by regulators (ie depreciating the asset over the agreed asset life using replacement cost of the asset

[9] See Appendix 1
[10] See appendix 2

- The approach used by a home owner, using the value of the home as security for a loan to buy the asset, and rolling the loan over each year without making any repayment of the borrowed capital until the asset reaches the agreed life and the amount borrowed is paid out in full.

In each case the debt element is assumed to be 60% and the equity component is 40%. The debt premium is assumed to be 150 basis points and the equity premium is assumed to be 600 basis points above the risk free rate. For the sake of simplicity, notional interest is assumed to be the sum of "real" interest and CPI in each year.

In order to create equivalence between different approaches, the last 40 years of actual inflation (as measured by the CPI), actual bond rate returns and actual lending rates used have been averaged. An investment is made by the regulated enterprise of $1000 in the first year and the asset is assumed to have a real life of 40 years, at which time it is to be scrapped and replaced with a new asset of equal performance.

2. The "Roll Forward" anomaly

Over time the assets used in providing the regulated service are determined to be no longer appropriate for use and the regulator permits the assets to be fully replaced. In making its decision at a pricing review, the regulator sets a period for the economic life of the different assets and at the end of this period the asset is deemed to be no longer "used and useful" and is to be replaced by a new asset performing the same service. To accomplish this, new capex is included in the regulatory decision to enable this to occur. At the same time the asset base is increased by the cost of the new capex needed for the replacement at the current cost for the asset and the old asset is assumed to have a zero value.

Current regulatory practice is that each year the regulated asset base is valued at its replacement cost and depreciated using its economic life. This amount is automatically rolled forward to the next year. This method of regulatory asset base valuation has been used because it reflects the current cost of the asset involved. Using a current cost for assets is seen to be an appropriate method to ensure that a competitor to the regulated business would not be commercially disadvantaged if it installed a new asset which competed with the incumbent asset owner. As both the Gas Code and Electricity Rules specifically point to the need to ensure that unnecessary duplication of existing assets is avoided, this argument in support of using a replacement cost methodology loses its fundamental basis.

This regulatory method is referred to as the depreciated optimized replacement cost (DORC) method of valuation but the regulatory approach is that the asset is seldom if ever optimized (following the practice used by a number of jurisdictional regulators to reduce regulatory risk for the businesses) and so in reality the approach is more appropriately designated the depreciated replacement cost (DRC)[11] method of valuation. The method used by regulators is to allocate the new asset to a unique depreciation schedule and for the amount of depreciation applying to it, to be escalated by the CPI.

This process is different to those used by competitive businesses in that normally the actual cost of an investment is depreciated over time so that at the end of the economic life of the asset, the book value for the asset is zero. This is referred to as the depreciated actual cost (DAC) method for asset valuation. Businesses are required to use this approach by the Australian Taxation Office.

When a business revalues its asset (this most often occurs in the case of a building, land, shares or intangibles) and the value has increased or decreased, the approach taken means that the new value is included in the accounts and the difference between the new value and the previous value is taken as a profit (for

[11] The current review of the electricity Rules by AEMC actually codifies this approach by excluding the ex post optimizing of an asset due to regulatory risk concerns.

an increase) or a loss (for a decrease). In the case of equipment, it is extremely unusual for a business to revalue equipment in its accounts, and the business merely depreciates the asset item over the agreed life of the asset.

A regulator will provide a cash stream to a regulated business which “rolls forward” its retention of assets at a depreciated replacement value whereas the business will depreciate its assets from the purchase cost. This differential approach to accounting for assets provides the regulated business with a cash allowance for depreciation which is greater than the allowance it includes in its own business accounts. This additional cash must find a “home” and ultimately becomes an additional source of profit.

3. Comparisons between the three approaches

In the following examples it has been assumed that there has been an investment of $1,000 made in 1969. The arithmetic averages over this time for the CPI, 10 year bond rate and home mortgage rates, have been calculated from the data published by the Reserve Bank of Australia. This data provides the arithmetic average CPI of 5.88%, average nominal 10 year bond rate of 8.82% and an average nominal home mortgage rate of 9.63%.

The asset is assumed to have an economic life of 40 years (this is the average of most electricity assets in a portfolio) although some regulated assets are allocated longer lives than this. At the end of the 40 years the asset is removed as it is no longer useful, and a new asset is installed at its current value. For the sake of simplicity (although this approach has been used by regulators), depreciation is assumed to be linear over the 40 years so the depreciation allowance is 2.5%.

The payment for use of the asset is the depreciated value multiplied by a WACC derived as in a regulatory decision, using the 10 year bond rate. Again, for the sake of simplicity the difference between nominal and “real” is the notional CPI figure. Debt premium is assumed to be 150 basis points and equity premium 600 basis points, and the gearing is 60% debt. This gives an average notional WACC of 12.12% over the period and a “real” WACC of 6.24%.

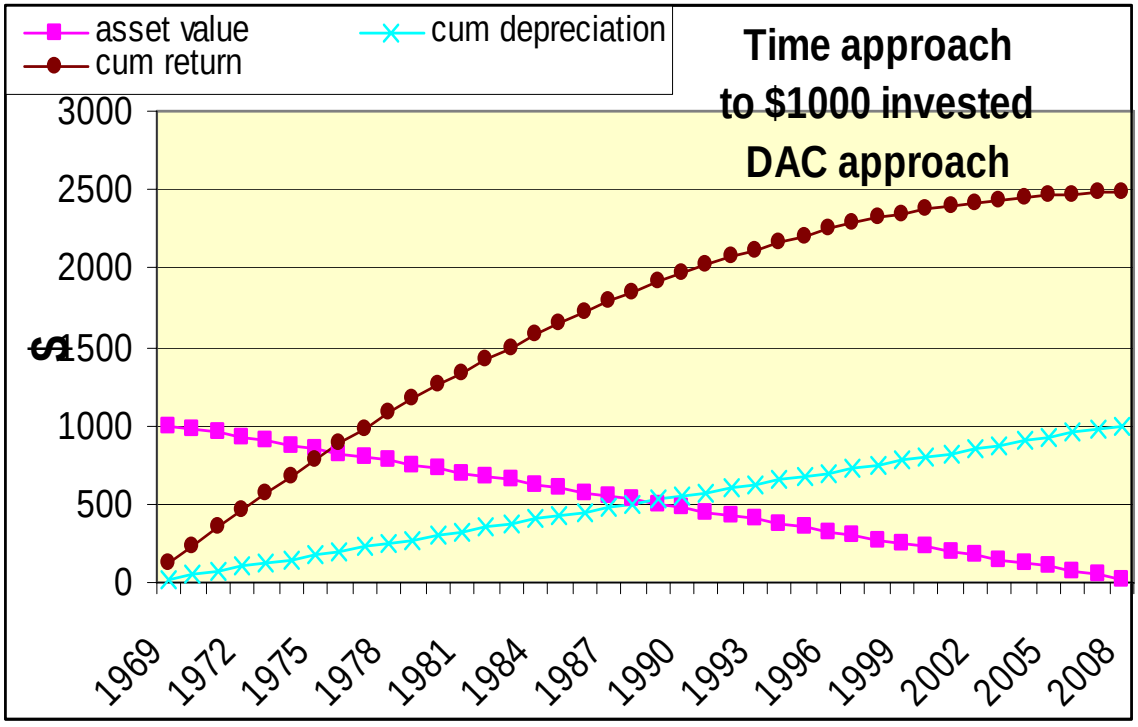
In the Home Equity approach, the average mortgage rate is 9.63%. Assuming this includes for 150 basis points of debt premium, the “risk free rate” becomes a notional 8.13%, giving an equity return of 14.13%. Gearing this at 60% debt, implies a nominal WACC of 11.43%.

3.1 The DAC approach to depreciation

Depreciation is set at 2.5% per annum, and the initial investment amount is reduced each year by the fixed amount of depreciation to give an asset value for each year.

The payment for the use of the asset is calculated at the notional WACC as there is no CPI increase in the RAB unlike that used in the DORC approach.

Plotting the changes over the years, the value of the asset in the regulatory accounts following this approach would be seen as shown in the following graph:



This graph shows that consumers would have returned to the investor $1,000 for depreciation and $2,485 for use of the asset, giving a total payment of $3,485 over the 40 year period. There is no residual value for the asset at the end of the 40 years.

At the end of the useful life the business will purchase a replacement asset costing some $9,830[12]

This is the traditional accounting approach used by most businesses and used by the tax office.

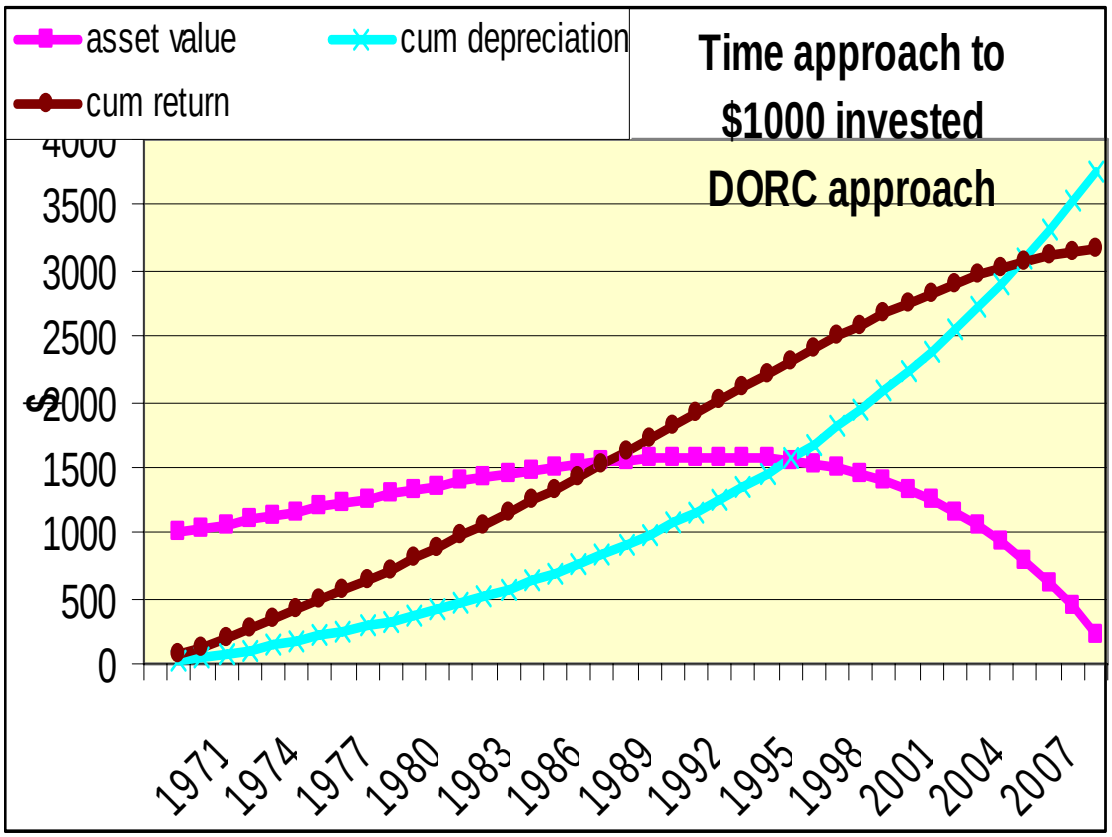
3.2 The DORC approach

The DORC approach assumes that the amount invested is kept segregated and that the amount of depreciation (in this example $25 in year 1[13]) is escalated each year by the CPI. The depreciated investment value is increased by the CPI and the escalated depreciation is deducted each year from the depreciated escalated value of the investment. The outcome of this approach is that at year 40 there is no residual value for the asset.[14]

[12] This is $1000 escalated at the CPI occurring over the 40 years.
[13] This is the amount taking 2.5% of $1000 for year 1
[14] This approach results in a very extensive spreadsheet, requiring all assets to be allocated to a depreciation rate group (there would have to be at least 8+ depreciation rate groups), and then

As the asset value is increased by CPI, a "real" WACC is used to provide a cost for the use of the asset. This replicates the regulatory approach.

As with the above examples the value of the asset in the regulatory accounts following this approach would be seen as the pink line, the amount paid as depreciation is the purple line, and the amount paid for use of the asset is the green line.



The above graph shows that in this method there is no residual value for an asset that is no longer useful but the payments made by users have been incurred earlier in the regulatory period. The amount paid for the use of the asset

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have all assets allocated to subgroups for each of their individual investment start times which might contain as many as 60+ investment durations as the longest asset life is at least 60 years (in SA, SAIPAR assumed some assets had a life of >100 years).
It also creates a challenge as to how this approach might have been applied to all existing assets at the time of the introduction of the new regulatory approach (ie the amount that was defined as being the RAB when the new regulatory process commenced). This would require the start date of every individual investment to be defined and then the inflation applicable included back to the oldest asset installed.

(ie RAB* WACC) is $3,157, and the amount paid in depreciation is $3,754. This means that the user would have paid $6,911 for the asset over the 40 years.

As per the earlier examples the replacement asset installed would cost $9,830.

3.3 Home equity approach

The Home Equity (HE) approach assumes that $1,000 is part borrowed at the start of the period to purchase an asset (an investment loan) and repayments are made at the end of each year, with the original loan rolled over each year. Interest rates used in this example are those published by the Reserve Bank each year for housing loans (ie they are nominal rates). The arithmetic average of home loan interest rates over the period was 9.63%[15].

When using the home loan interest rate as the basis for developing this option, an interesting feature arises. Assuming the lending bank has included in the interest rate a debt risk premium of 1.5% as used by the regulators in developing the debt element of the WACC using the CAPM approach; this implies that the banks had a "risk free" rate of 8.13% (ie 9.63% less 1.5%) over the past 35 years. This risk free rate compares to the average 10 year bond over the past 35 years of 8.82%. This means that the banks use a lower "risk free" rate for secure lending than the 10 year bond rate by some 70-80 basis points. **This appears to be another cause of the out performance of the regulated businesses compared to those operating in truly competitive environments.**

The use of housing mortgage interest rates as a basis for comparison is a reasonable approach. The housing mortgage industry is seen as a highly secure lending environment, particularly as the gearing is 60% debt. This level of gearing was the standard for home first mortgages until banking deregulation in the 1980s. Now banking home mortgages are geared to 80% debt, and even above this when mortgage insurance is provided. The funding for equally secure infrastructure is on the same level as home mortgages at a gearing of 60% debt.

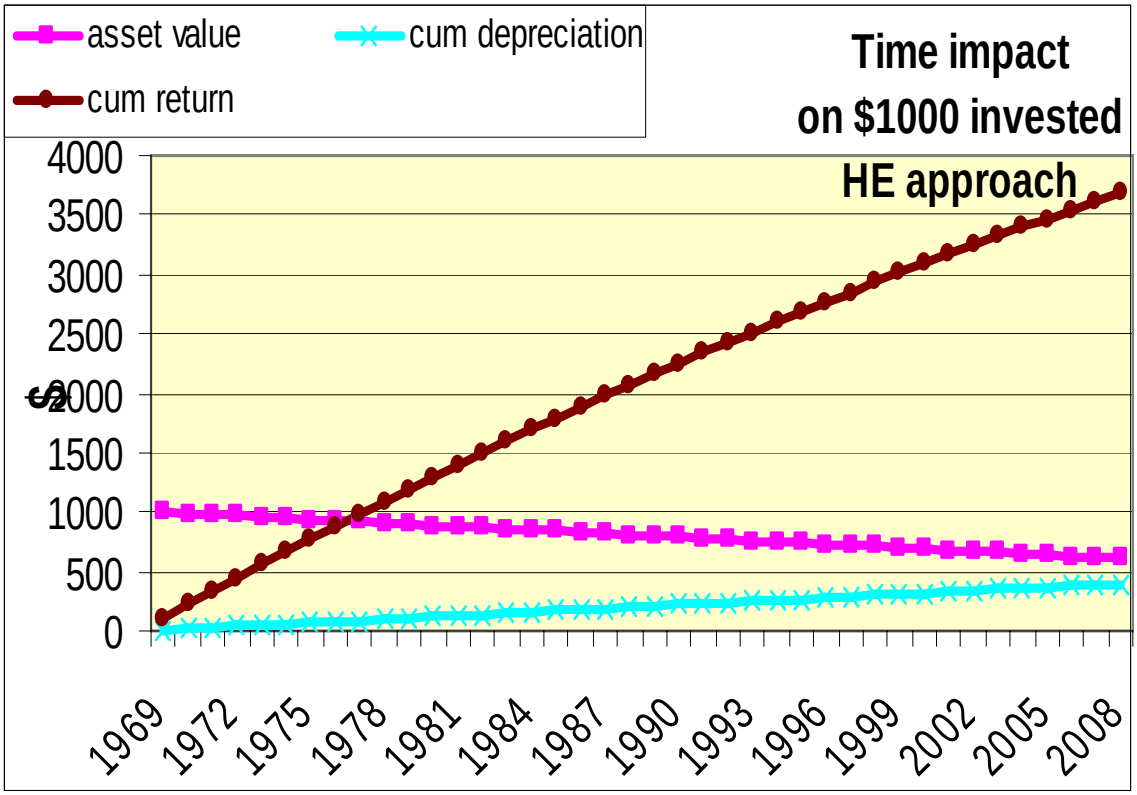
The home loan interest rate is converted to a WACC with a debt to equity of 60:40, with debt having a premium of 1.5% points and equity having a premium of 6% points, following the standard regulatory approach. This effectively means that the bank lends $600 which is rolled over each year. As the remaining $400 investment is equity (by the borrower) it should be depreciated at 2.5% each year. It is appreciated that this approach has its drawbacks, but the underlying principle still applies. Using the home loan rates as the basis for WACC

[15] The effective interest rate for a home secured investment loan of 9-10% over the past 35 years compares favorably to a 30 year bond rate (interpolated from US long term bond rates and the Australian 10 year bond rate) of about 9-10%.

calculation recognizes that depreciation of the asset purchased by the investment loan occurs, but the investment is secured by the property asset.

The average notional WACC used as derived from the bank interest rates is 11.43% whereas the notional average WACC over the period using CAPM is 12.12%. The payment for the use of the asset is calculated at the notional WACC as there is no CPI increase in the loan as used in the DORC approach.

At the end of the term the loan of $600 is paid out. There is no depreciation of the original loan until the end of the term as the amount borrowed ($600) has to be less than the retained value of the rolled-over asset value, although the equity element of the investment ($400) should be depreciated. Therefore, the WACC is paid on the partly depreciated investment each year. This approach is less cash efficient than applying full depreciation, but the asset must retain a value equal to or greater than, the loan to underwrite the amount borrowed.



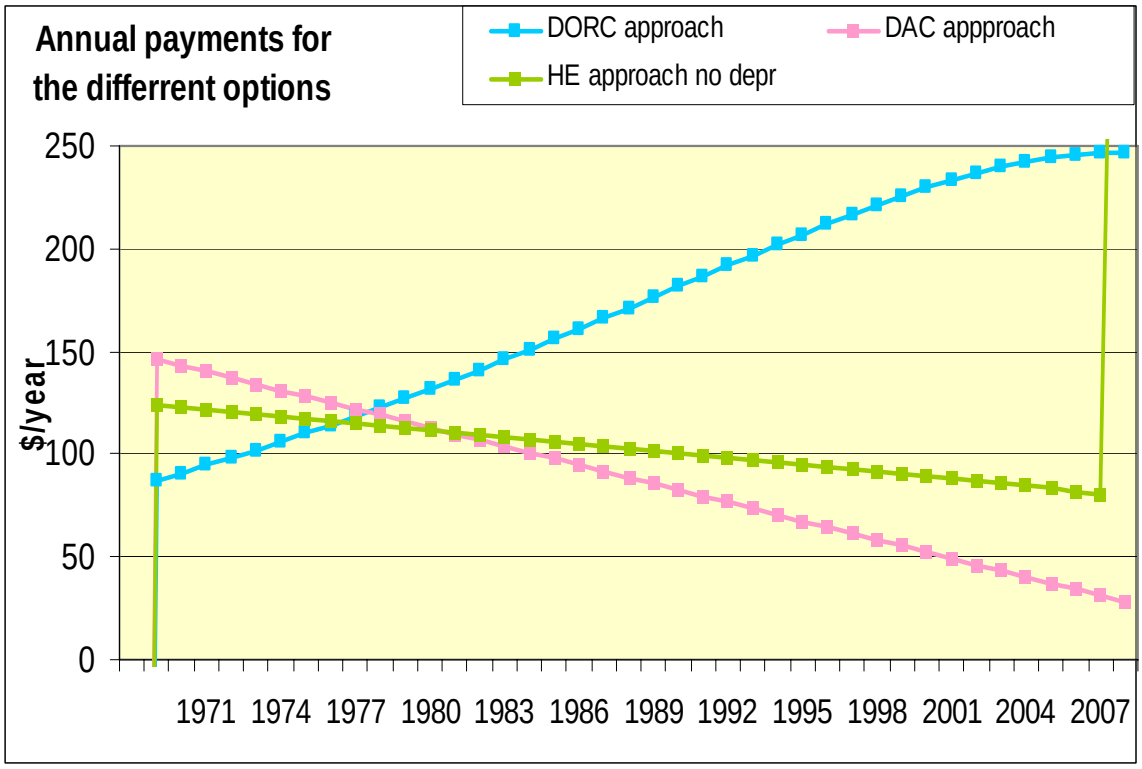
The above graph shows that using this method the residual value for an asset that is no longer useful is paid out at the end of the term. The amount paid for the use of the asset (ie RAB*WACC) is $3680, and the amount paid in depreciation is $1,000. This means that the user would have paid $4680 for the asset over the 40 years.

If a new asset is required it would cost $9,830 as for the other methods.

3.4 Outcomes

The actual annual payments made by consumers each year are significantly different. The following graph plots the total annual payments made by consumers under each method for the 40 years the $1000 dollar investment is amortized.

Under the DAC approach there are larger payments made at the start of the period and the DORC approach gives the business lower payments in the beginning. The HE approach lies between the two. After eight years, the DORC approach becomes more expensive for consumers with the DAC approach becoming the lowest cost to consumers. The HE approach still lies between these two extremes.



The total cash flows for the three options show quite different profiles. From a consumer viewpoint the differences are startling – the DORC approach requires the total payment of $6,911 over the 40 years, whereas the DAC approach requires the payment of only $3,485. The Home Equity approach costs consumers a total of $4,680.

The following shows, under the different scenarios the amounts, consumers are required to pay:

Approach to investment	DAC	DORC	Home Equity
Initial investment	$1,000	$1,000	$1,000
Period of investment	40 years	40 years	40 years
Depreciation rate	2.5%	2.5%	2.5% on $400
Payment for depreciation (recovery of investment)	$1,000	$3,754	$400
Residual value of investment	$0	$0	$600
Payment for use of investment	$2,485	$3,157	$3,680
Total payment for use and recovery of the investment	$3,485	$6,911	$4680
Required annual fixed payment for use of $1000 investment for 40 years	$87	$173	$117
Effective interest rate[16]	8.4%	17.3%	11.6%

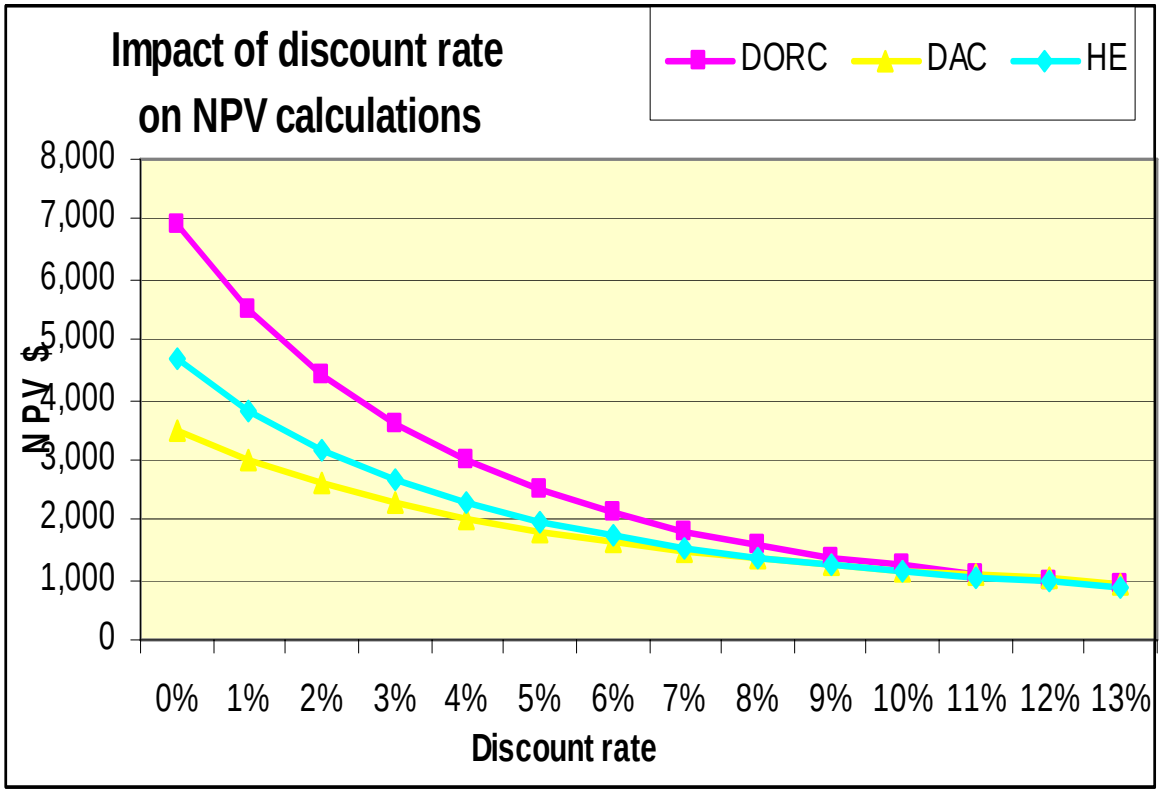
The DORC approach rewards the regulated business with significantly increased depreciation amounts which are included in the regulated revenue and an increased return as the DORC value increases over time reaching a nominal value of $1,582 (nearly 60% over the initial investment) after some 21 years.

This means consumers pay the regulated business 3-4 times the value of the initial investment in depreciation courtesy of the regulator!

To assess the differences between these cash flows, the normal approach is to apply a “net present value” calculation. The setting of the discount rate has a major impact on the results of the NPV calculation. There are potentially at least six values which could be relevant for the discount rate – zero (reflecting the actual cash payments), CPI (making adjustment for the buying power reduction with time), the 10 year bond rate (real and nominal) used as the “no risk” investment and WACC (real and nominal) used for the return to the businesses.

The following graph plots the cash flows from the three approaches, over a range of discount rates. As would be expected using a zero discount rate, the NPV calculation reflects the nominal cash outlay. As the discount rate increases, the three approaches all trend towards each other, with the DAC approach providing a higher NPV than the HE approach after a discount rate of 8% is used and the DAC approach providing a higher NPV than the DORC approach after a discount rate of 11% is used.

[16] This is the interest rate that would be paid for use of funds with the principal being paid back at the end of the period.



The National Electricity Law objective refers to the "…long term interests of the consumer …" to be the focus of the law. This being the case, then the discount rate should reflect the impact of the different cash flows on consumers. Of the six options noted for a discount rate, only two relate to consumers – actual cash paid, and the buying power of cash over time (as assessed by the impact of CPI). When the CPI is used as the discount rate (this reflects the continuing "real" buying power of consumers) the NPV of the DORC approach is $2,153, of the DAC approach is $1,656 and of the HE approach $1,743, demonstrating a significant difference between the three approaches, with the DORC approach showing a premium of 30% above the DAC approach, and a premium of 24% about the HE approach.

Because the assets are valued at replacement cost (this is the essential element of DORC) consumers are required to pay a return on an escalated asset value. However, the WACC calculated from CAPM uses inputs calculated from the returns investors get from the stock market. Yet the published accounts for companies listed on the stock exchange are based on the depreciation rules applied by the ATO which requires a depreciation method based on the DAC approach. There is a significant inconsistency in this.

In other words consumers are paying effective interest on investments made by regulated businesses at rates 1.5 to 2 times the long term bond rates and the high interest rates are being applied to assets with a relatively high degree of security!

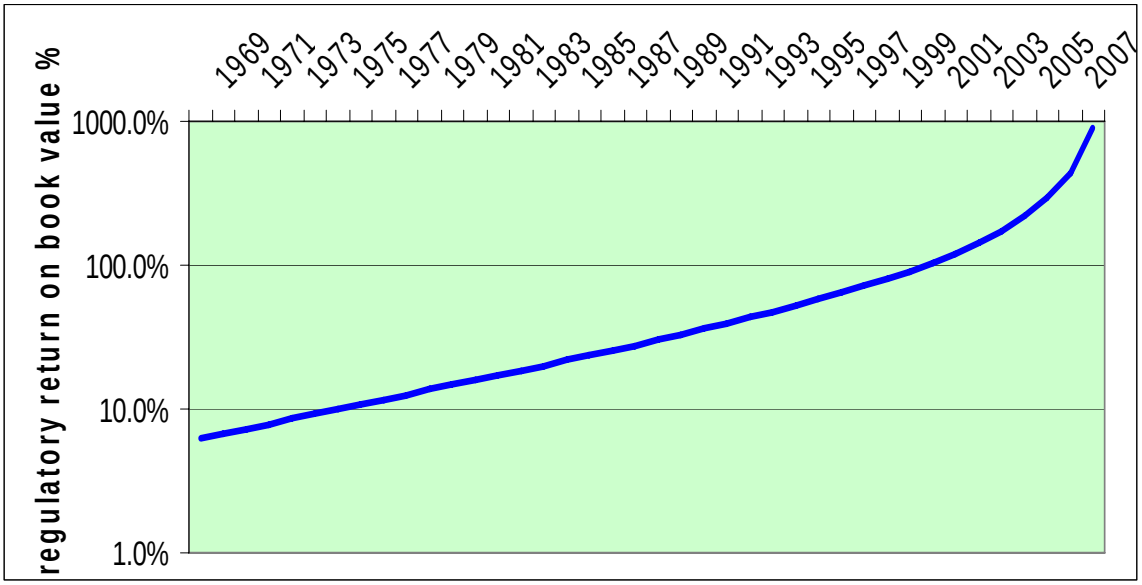
Under the DORC approach, the accumulated depreciation paid by consumers is nearly half the value of the replacement asset, yet the regulated businesses are able to retain this and consumers are subsequently charged additional costs for providing an asset valued at the full replacement cost.

3.5 Impact of the cash receipt under DORC but accounting under DAC

The regulated business will receive the regulatory cash flow as determined under the DORC approach, yet in its published accounts (against which it is measured by investors and those looking to lend to the regulated business) it will be ,measuring its performance against the depreciation method required for its accounts (ie against the DAC approach to depreciation).

When the total return from the DORC approach (ie the sum of the return on assets and the depreciation) is measured against the residual value of the asset included in the accounts of the regulated business valuing the residual asset value under the DAC approach, the outcome provides a fascinating insight into the return on assets apparently achieved by the regulated business.

The following graph measures the regulatory return and depreciation allowed against value of the assets as would be published in the accounts (the “book” value).



This additional analysis shows that the businesses do get a real cash benefit from being reimbursed depreciation and return under the DORC approach as the accounts prepared for their shareholders show the conventionally depreciated assets as their investment.

Thus relating the cash paid by consumers under the regulatory (DORC) approach against the book value of the assets in the accounts of the business, in year one they would give shareholders 6.2% nominal RoA (ie there is $25 for regulatory depreciation less $25 to depreciate the book value plus $62 allowed for regulatory return). After 9 years the RoA earned by the business exceeds the nominal WACC of 12.12% (ie, there is $42 paid for depreciation but $25 allowed for book depreciation, plus a return of $104 included, providing a net return on the asset of $121 after book depreciation). This RoA increases each year to reach 30% after 20 years (that is $78 for regulatory depreciation, less $25 for book depreciation plus $98 for regulatory return) and at year 40 the nominal RoA is 886% (ie $232 allowed for regulatory depreciation less the $25 for book depreciation plus $14 for regulatory return).

It takes just on 5 years for the RoA declared by the business to give a return equal to the average nominal bond rate of 8.8% and it explains why the businesses are able to use the amount of the regulatory depreciation to increase the value of their shares over time and deliver a higher return to shareholders.

4. Conclusions

The purpose of this monograph has been to identify one of the key reasons why the Utilities index has outperformed the ASX benchmark (ASX 200) over the past five years[17].

The analysis of the approach shows that:-

- Assets provided by the business are funded by consumers at a rate which exceeds the rate for funds which can be accessed for similar purposes with a similar degree of security.
- The amount of accumulated regulatory depreciation paid by consumers is significantly greater than the initial investment made by the business.
- The value of the asset increases above the initial asset value, and consumers pay a return on this excess value.
- The amount of cash paid by consumers for regulatory return and regulatory depreciation significantly exceeds the amount that the regulated business is measured against by investors. The outcome of this approach is that it will be the next generation of consumers that will be required to pay considerably in excess of a reasonable return for use of regulated assets
- The net present value of the cash flow paid under the regulatory return is significantly greater than the NPV of the cash flows assessed using other approaches to depreciation
- The surplus of the accumulated depreciation above the value of the initial investment is not netted against the cost of the replacement asset.
- As consumers fund the cost of the replacement asset, the depreciation paid by consumers which is surplus to the value of the initial investment, can be taken by the business as a profit.

Depreciation is a non-cash item in the financial accounts. The regulated business is required to declare its annual financial figures based on the DAC approach. By doing this it would declare depreciation for the asset at $1,000 over its 40 year life. The concept is that at the end of the asset life the accumulated depreciation is used to replace the asset with a new one in order to continue the operation of the business. The DORC approach allows the businesses a major increase in accrued depreciation compared to the initial investment. This additional revenue is not required to purchase a replacement asset to replace one being retired, and the amount paid for depreciation greatly exceeds the value of the initial investment.

However, when the asset is to be replaced, the regulator permits its replacement within the approved capex, at its **current cost**. The purpose of depreciation (the

[17] See appendix 1.

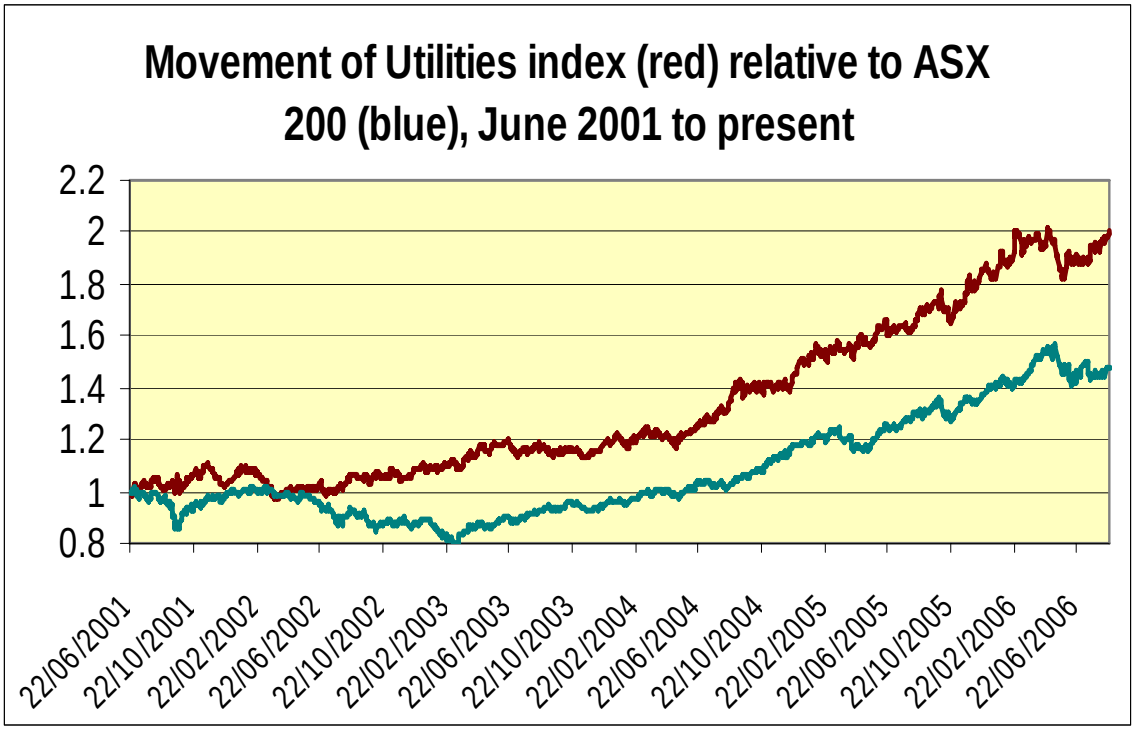
repayment/recovery “of capital”) is to provide a fund for the costs resulting from the replacement of the asset when the original asset is no longer useful. With regulators allowing in the approved capex the full replacement value of the asset, a **massive windfall** benefit is provided to regulated businesses as the regulated business is able to retain all of the depreciation accumulated during the life of the asset, as any depreciation allowance (less the initial investment) in both regulatory and business financial accounts can be taken by the business as a profit without suffering any adverse consequences.

This monograph provides supporting evidence as to why the Utilities sector has so clearly out performed the market average. It also explains why regulated businesses are able successfully to trade with a balance sheet which might otherwise suggest that trading was close to financial limits. Consumers are clearly paying excess funds to regulated businesses, courtesy of regulators.

Appendix1

The Performance of the Utilities sector

The following graph shows the Utilities sector share performance over the past five years compared to the share average as defined by the ASX 200.



Source: Commonwealth Securities

The ASX 200 has been recognized to be particularly buoyant in the past 2-3 years as a direct result of the "China resources" boom. This should not have impacted on the Utilities index yet despite the China resources boom impacting the ASX 200 companies but not the Utilities sector, the Utilities index has significantly outperformed the market average overall, but particularly even during the China boom period. This shows that the companies within the Utilities index are seen as extremely profitable businesses, compared to risk.

A review of the companies comprising the index shows that DUET, Hastings, Alinta, AGL, APT, Envestra, GasNet, SPI AusNet, Spark Infrastructure are all in the index and between them, they comprise over 90% of the index capitalization – supporting the following assessment.

Analyzing the figures provided by Commonwealth Securities (CommSec) shows that the ASX 200 demonstrates that market risk premium (MRP) for the sector for the past five years is 6.05%, about the long term average, rising from an MRP of between 3-4% observed for the past 30 years. This would be expected as the

ASX 200 has been recognized to have been heavily influenced by the China resources boom. CommSec has calculated an equity beta for this sector[18] at 1.08, again about the average for the long term market average.

In comparison, analyzing the figures provided by CommSec shows that the Utilities index demonstrates an MRP of 11% for the sector for the past five years. This is despite the fact that regulators have been setting an MRP of 6% in all regulatory decisions made during the same period, as well as for the five years before. CommSec has calculated an equity beta for this sector at 0.31, less than one third of the value used in all regulatory decisions up to late 2004.

In developing the WACC using CAPM, the equity beta used by most regulators is unity, although some regionally based regulators have set equity beta at 0.9 and ESCoSA (supported by the SA government) suggested that equity beta should be 0.8. Comparing the equity betas calculated by CommSec, for the market as a whole a small reduction of 4% in the "All Ords" equity beta over the past 6 months has been seen. Over this same time the equity beta of the Utilities index has shown a reduction of 25%, a value of 0.23.

There has been a consistent trend for equity beta for utilities over many years now, stretching back into the 1990s, where equity beta has been consistently below 0.5. Commentators have averred that the low equity beta for utilities in the late 1990s was a result of the "dot com" boom and bust. It is fascinating to note that equity beta for utilities has remained at this same level for the past decade, defying the boom and bust cycles of other asset classes.

This would seem to indicate that the equity beta for utilities should be significantly lower than that applicable to the market as a whole.

[18] See appendix 2 which provides a listing of equity betas and sector and subsector dividend yields for each market sector. This data was sourced from Commonwealth Securities.

Appendix 2

Data sourced from Commonwealth Securities Web site					
	ASX code of typical company in sector	Beta		Sector div yield	
		27-Feb-06	23-Aug-06	27-Feb-06	23-Aug-06
All ords		**1.08**	**1.04**	**4.3**	**4.3**
Consumer discretionary					
Automobiles and components	OEC	1.02	0.86	6.2	6.2
consumer durables and apparel	GUD	1.75	1.39	5.3	5.2
consumer services	TAH	0.93	1.19	4.3	3.9
Media	PBL	1.51	1.39	4.5	4.4
Retailing	HVN	1.18	0.99	4.6	4.7
Consumer staples					
Food and drug retailing	WOW	0.62	0.64	3.8	3
Food beverage and tobacco	LNN	0.58	0.51	4.3	3.9
Energy		0.96	1.04	3	2.8
Energy Equipment and services	HZN				
Oil and Gas	ORG				
Financials ex property					
Banks	CBA	0.86	0.68	4.3	4.1
Diversified financials - resources	BNB	1.19	1.16	3.5	3.7
Diversified financials - holdings	SOL	1.19	1.16	3.5	3.7
Insurance	AMP	1.58	1.54	4.2	4
Property Trusts		**1**	**1.04**	**6.9**	**6.9**
Investment trusts	WDC				
management and development	CEQ				
Health Care					
Equipment and services	SHL	1.19	1.09	2.8	3
Pharma & Biotech	SIP	1.81	1.52	2.3	2.9

Data sourced from Commonwealth Securities Web site					
	ASX code of typical company in sector	Beta		Sector div yield	
		27-Feb-06	23-Aug-06	27-Feb-06	23-Aug-06
Industrials					
Capital goods	COA	1.11	1.12	4	4.1
Commercial services and supplies	BIL	1.11	1.19	4	3.9
Transportation	ADZ	0.9	0.99	4.7	4.9
Info Tech					
Software and services	CPU	1.82	1.61	4.6	4.6
hardware and equipment	KYC	1.15	1.02	4.4	3.9
Semicondictors	LGD	1.15	1.02	0	0
Materials		**1.39**	**1.15**	**3.1**	**3.2**
Chemicals	ORI				
Construction materials	ABC				
Containers and packaging	AMC				
Aluminium	AWC				
Diversified metals and mining	BHP				
Gold	NCM				
Precious metals and minerals	ERA				
Steel	BSL				
paper and forest products	PPX				
Telecomms		**0.44**	**0.29**	**5.7**	**6.2**
Diversified	ENG				
Wireless	HTA				
Utilities		**0.31**	**0.23**	**5.2**	**5**
Electric	HDF				
gas	ALN				
Multi	SPN				
Unclassified	BQF	**1**	**0.98**	**6.9**	**6.9**

Appendix B

The following is an extract from the

Submission of the Treasurer of South Australia
Review of the Essential Services Commission of SA
Electricity Distribution Price Determination

4. Equity beta

4.1 Introduction

The Government considers that the equity beta of 0.8 adopted by ESCOSA in the Final Determination is within the expected range, given current market estimates of betas and after appropriate consideration of the effect of the Final Determination in mitigating almost all of the systematic risk faced by ETSA Utilities.

To assist ESCOSA in considering the Review Application from ETSA Utilities, this submission includes an independent expert's review of the appropriate equity beta, authored by Associate Professor Dr Martin Lally.

Dr Lally has used a detailed analysis to calculate an appropriate asset beta for ETSA Utilities, before using the agreed gearing formula to calculate an equity beta of 0.75. It is noted that Dr Lally's approach provides a more reliable result as it draws upon a larger data set than that relied upon by Professors Gray and Officer, which compares a total of four Australian firms.

In addition, Dr Lally has reviewed the analysis of Professors Gray and Officer and has concluded that, after the removal of the flawed Blume adjustment (that has been uniformly rejected in other Australian regulatory decisions), their own data points to an equity beta of 0.82.

The following sections (4.2 – 4.5) deal with the detailed analysis of the appropriate equity beta for ETSA Utilities and draws heavily upon the independent expert's report provided by Dr Lally.

4.2 Analysis of appropriate equity beta

A key issue to be considered when attempting to estimate equity betas is the quality of the data set being manipulated.

As noted by ESCOSA, the number of Australian firms upon which an estimate of an equity beta can be based is six. Dr Lally notes that this is far too small a set to place any

great reliance upon. Professors Gray and Officer attempt to rely on this set, but in order to achieve statistically significant results, must use inappropriate data manipulation processes, such as the Blume transformation, as discussed at section 4.4.

Accordingly, Dr Lally's analysis widens the data set to include US electricity and gas distributors, which are subject to a regulatory regime that gives rise to a similar systematic risk faced by ETSA Utilities. Further, Dr Lally's analysis considers beta estimates drawn from a number of sources and over a number of time periods, to minimise estimation error. The results of this analysis are tabulated on page 13 of Dr Lally's report.

The median asset beta for the firms and time periods considered is 0.26. However, Dr Lally has noted that some of the results from 1998-2001 are unusually low, possibly due to the technology bubble. If an appropriate adjustment is made to account for this, the result is a median asset beta of 0.30.

After applying the transformation for different tax regimes and the assumed gearing ratio for ETSA Utilities, the resultant equity beta estimate for ETSA Utilties is 0.75.

It is noted that Dr Lally's approach differs somewhat from the approach of ESCOSA, however, the results from the two processes yield very similar results.

4.3 Analysis of Professors Gray and Officer

The ETSA Utilities Review Application draws heavily upon material presented by Professors Gray and Officer which points to an equity beta of not less than one.

However, as noted in section 4.4, the data used by Professors Gray and Officer has been subjected to the Blume transformation which has been widely considered by regulators to be inappropriate. Further, perceived "outliers" have been removed from the data set to "eliminate a small number of observations that are so extreme and influential as to bias the beta estimate."

However, as shown by Dr Lally, assuming a normal distribution, the percentage of observations removed would be 32%, 13% and 5% following removal of outliers outside of 1, 1.5 and 2 standard deviations respectively. The removal of 32% or 13% of observations is hard to reconcile with the objective of removing a "small number" of outliers.

Professors Gray and Officer also remove all data from the "technology bubble" period of July 1998 to June 2001. Whilst Dr Lally proves that this produces an upward bias in the estimate of the equity beta, the resulting size of the bias is unknown.

To assist ESCOSA in considering the Review Application, Dr Lally has reconstructed the beta estimate undertaken by Professors Gray and Officer, by:

- removing observations outside of 2 standard deviations (or 5% of the observations), consistent with removal of a small number of outliers as described in the Gray/Officer report; and
- removing the Blume transformation bias.

Following these corrections, the estimated equity beta, using the data presented by Professors Gray and Officer, is 0.82. It should be noted that no adjustment has been made for the removal of the "technology bubble." Accordingly, the estimate of 0.82 is likely to be upwardly biased according to Dr Lally.

4.4 The Blume Transformation

The analysis of Dr Lally identifies three clear problems with the Blume transformation process, as used in the analysis performed by Professors Gray and Officer.

Firstly, the Blume transformation essentially captures the relevant data set and forces any outlying betas towards 1.0. Dr Lally notes that whilst this could represent the movements of true US betas from 1926 to 1968, the movement towards 1.0 would have no necessary relevance to ETSA Utilities or Australian firms in general at the present time.

Secondly, even if one were to assume that the shift towards 1.0 observed by Blume were representative of the shift in Australian firms' betas at present, this is not representative of a single entity like ETSA Utilities, whose beta cannot be altered via diversification.

Thirdly, even if the conclusion of Professors Gray and Officer that the Blume process is a manifestation of estimation error only was accepted, the Blume process forces beta estimates towards 1.0, rather than towards the industry average. For example, if the estimated beta for a firm was 0.5 and the industry average from which this firm was drawn was also 0.5, the Blume transformation would still seek to move the estimated beta for the average firm towards 1.0.

Clearly, the Blume transformation process is biased towards one and is inappropriate for use in this context.

This position is supported by the Victorian Essential Services Commission (ESC) in their Draft Decision with regard to the Review of the Gas Access Arrangements. In their Draft Decision, they state (note that this decision was maintained in their Final Determination):

"With respect to the first of these reasons for the Blume adjustment, it is noted that taking an average (or weighted average) of a group of firms that are considered to be sufficiently comparable – as the Commission has undertaken in this Draft Decision – is an alternative means of reducing the statistical uncertainty associated with individual beta estimates. The Commission considers that, given its careful selection of comparable entities and the use of an average from the group, the application of the Blume adjustment is unnecessary, and indeed, may introduce bias in the resulting estimates."

This view accords with the position put forward by Dr Lally. Accordingly, the Victorian ESC had regard only for raw beta estimates in making their Final Determination.

As noted above, after the removal of the biasing effect of the Blume transformation process on the Officer/Gray estimate, the resultant equity beta is 0.82, providing further evidence that the estimate adopted by ESCOSA is accurate and appropriate.

4.5 Removal of Systematic Risk

One of the key points of ESCOSA's Final Determination was the adoption of a "Q" factor adjustment. Essentially, if actual energy sales are different from forecast sales, 85% of the revenue variation is removed (i.e. only 15% of the forecast error is retained or recovered by ETSA Utilities).

As noted by Dr Lally, the regulatory regime, in particular the "Q" factor, has the effect of essentially eliminating ETSA Utilities' systematic risk, manifested in the form of both volume and cost shocks.

However, ETSA Utilities has claimed that this mitigation of systematic risk has little influence on the appropriate estimation of beta.

In response to this claim, it is instructive to note the comments of the QCA on the same claims made by Queensland distributors:

"The Authority disagrees with the DNSPs' claim that the impact of a revenue cap on systematic risk is ambiguous. The DNSPs argued that, while the revenue cap would be expected to reduce the co-movement in the returns of the relevant entity compared to a price capped firm, the volatility of total returns would be higher so the impact on systematic risk would be ambiguous.

The Authority believes that a revenue cap (as opposed to a price cap) implies that there will be a reduction in the covariance between returns to the asset and returns to the market, which is the relevant matter for beta risk."

Accordingly, it is appropriate for ESCOSA to consider the level of systematic risk faced by ETSA Utilities when considering an appropriate beta. As the systematic risk faced has been significantly ameliorated, an equity beta of significantly less than 1.0 would be appropriate.

Clearly, there exists a strong interconnectivity between the equity beta and the systematic risk faced by ETSA Utilities. Accordingly, this provides further evidence that it is not appropriate to consider single components of the WACC in isolation from other input components.

Indeed, there is a substantial body of work that suggests that the MRP adopted by ESCOSA is an overestimate of the future MRP faced by ETSA Utilities.

For instance, declines in the real interest rate and the introduction of dividend imputation in 1987 have produced capital gains which could not have been anticipated. Together they have boosted excess returns by about 1 percentage point over the 30 years to 2003. Taking these biases into account, the MRP over the last 30 years would appear to lie in the range 4½ to 5 percent, rather than the 6 assumed by ESCOSA.

4.6 Regulatory Precedent

It is important to note that an equity beta of less than 1.0 has been adopted in regulatory decisions in other jurisdictions. In 1999 and 2004, the NSW IPART adopted ranges of 0.78 to 1.14 and 0.78 to 1.11 respectively.

In 2001, the QCA included an equity beta of 0.71.

It is acknowledged that the ACCC adopted an equity beta of 1.0 in its Decision on the Statement of Principles for the Regulation of Electricity Transmission Revenues. However, the Government also notes the comments of the ACCC in the Discussion Paper that,

"the Commission has regularly indicated that an [equity beta] of one or above is most likely too high for the regulated TNSPs, the Commission has provided an [equity beta] biased towards the TNSPs and has not set an [equity beta] below one in any revenue cap decisions. Other regulators have set an [equity beta] of less than one for some electricity distribution networks."

The Government does not consider that it is appropriate for ESCOSA to provide an equity beta that is biased towards the regulated entity, as it would be if an equity beta of 1.0 or higher were to be adopted. Such an approach would be inconsistent with the primary directive of ESCOSA, as discussed in section 2.1, to protect the long term interests of consumers.

In addition, the Allen Consulting Group's Report on the Empirical Evidence on Proxy Beta Values for Regulated Gas Transmission Activities highlighted that:

"…this report has demonstrated that no implication can be drawn from current market evidence that the proxy betas that Australian regulators have adopted are likely to understate the 'true' beta – rather, as noted above, the current evidence suggests that regulators systematically have erred in the favour of the regulated entities."

Again, the statutory guidance to ESCOSA is clear. It does not have the discretion to err in favour of the regulated entities. It is incumbent on ESCOSA to develop an estimate of beta that is in the long term interests of consumers.

A value of 0.8 for the equity beta is not outside the range of regulatory decisions on this issue. It is also consistent with many comments of other regulators that a value of 1.0 errs in the favour of the regulated business.

4.7 Conclusion on equity beta

Dr Martin Lally has presented a very detailed analysis of the appropriate estimate of an equity beta for ETSA Utilities. On the basis of Dr Lally's own analysis, the appropriate equity beta is 0.75.

However, it is also instructive to consider the re-adjustment results of amending the Officer/Gray data to remove the bias caused by the Blume transformation. This yields an equity beta of 0.82.

Thirdly, ESCOSA has conducted its own analysis based on data from the Allen Consulting Group, with a resulting equity beta estimate of 0.8.

Therefore, there is very strong evidence that the correct equity beta estimate for ETSA Utilities lies somewhere in the range from 0.75 to 0.82, with ESCOSA's estimate of 0.8 representing a reasonable mid-point.

Accordingly, it is recommended that ESCOSA maintain its view that the correct equity beta estimate for ETSA Utilities is 0.8.